

Public Utilities

FORTNIGHTLY



Volume 66 No. 11

November 24, 1960

REGULATION IN A COMPETITIVE ECONOMY

By Charles F. Phillips, Jr.

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What's in Store for Public Utility Financing? Part II.

By Fergus J. McDiarmid

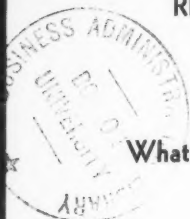
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Pay-out for Capital in the Electric Power Industry


By Franklin H. Cook

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Reaction to the FPC Area Price Policy

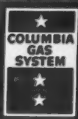


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Public Utilities

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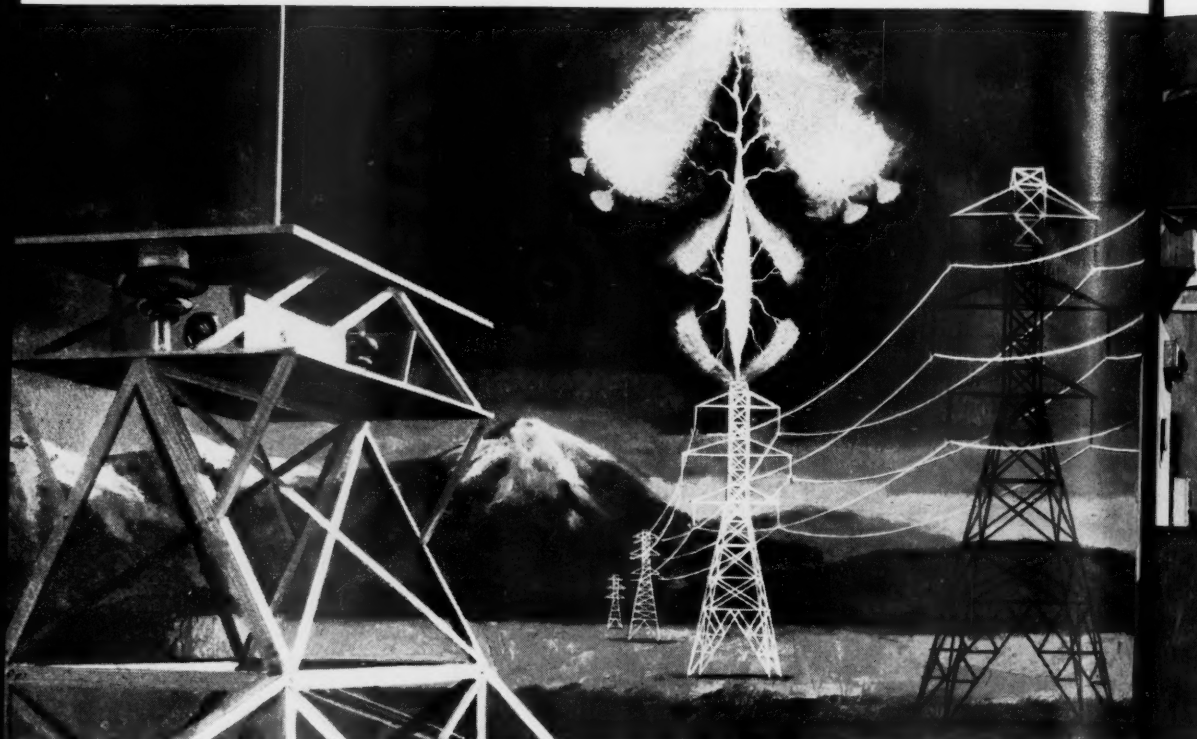
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Westinghouse Powercasting is now extending massive investigations of the last 13 years. The intent? To provide electric utilities a high order of long-range planning. To help anticipate problems, make the right decisions, at the right time. To hold capital investment costs down.

1. New Westinghouse test line probes secrets of radio influence and corona loss at higher voltages

A third intensive Westinghouse study of R.I. and corona is now underway.

At Trafford, Pennsylvania, Westinghouse is building a special line to study fundamentals of corona formation, generation and control of R.I. and the development of new measurement techniques. The knowledge gained from this test line will be applied in a new large-scale test program.

These studies will permit the design of EHV lines above 500 kv when POWERCASTING indicates their need.

2. The lighting surge problem...Westinghouse Prestrike Theory

From intensive studies of the lightning stroke mech-

anism, Westinghouse has evolved the new and revolutionary Prestrike Theory. According to this theory, the tip of the lightning leader contains a large charge which is rapidly injected into the transmission tower. The result is a high-magnitude, short-duration current—prestrike current—producing very high voltages across the insulator string. The prestrike current will account for the higher-than-predicted outages on certain designs of EHV lines.

To determine the existence of the prestrike...

Westinghouse developed unique current-time measuring instrument, the Kine-Klydonograph

The KINE-KLYDONOGRAPH is one of the many unique instruments developed by Westinghouse to probe the secrets of lightning. It is capable of accurate measurement of the current wave shape of a natural lightning stroke over a wide time range—0.05 to 15 microseconds. The records from these instruments will verify if the prestrike does exist.

The Kine-Klydonograph is mounted atop the transmission tower. Since June of 1959, 20 such instruments

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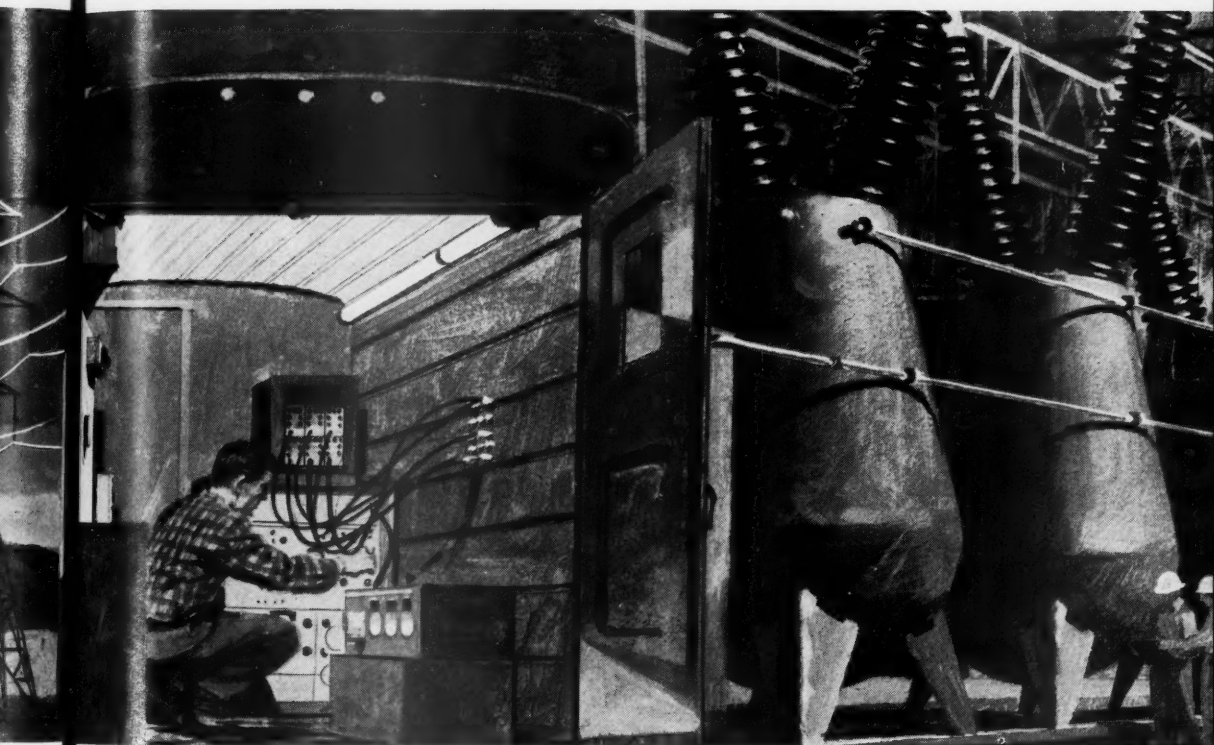
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have been installed on a 345-kv line, and an additional 60 instruments are being installed this year. Westinghouse is currently focusing attention on these critical characteristics of lightning. These investigations will lead to more realistic line and equipment design and to more reliable EHV transmission.

3. Westinghouse—AEP, in two-year field test program, to make extensive study of switching surge problem

Early 1969 will see initiation of the first comprehensive survey of switching surges ever undertaken on an American utility system. Results of this survey will significantly influence the design of future higher voltage systems. The paramount insulation coordination problem for substation equipment is protection against switching surges rather than lightning.

Westinghouse and American Electric Power are cooperating in this study to measure system voltages and currents under a variety of transient conditions—line dropping, line energizations, magnetizing current interruption and de-energization, etc. Measurements will be made on 345-kv and 138-kv circuits. Total

activity will involve more than 40 major field tests.

Two areas into which these test results will flow are transformer and switchgear design. Wave shape and frequency of surges are required to determine switching surge strength and BIL. Very little field data is available on switching surges which transformers may encounter. Most information on magnitude and frequency of surges has been determined by analog computer studies. Ideally, computer studies based on field test data promise the most realistic results.

New tools and new techniques have thus been made available to Westinghouse POWERCASTING . . . a program to unearth new knowledge. In the carefully balanced study program, Westinghouse will reduce present problems to a fuller understanding of switching surges . . . leading to system design ideas that will lower utilities' EHV transmission investment.

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Pages with the Editors

IT is commonly said that regulation of public utilities is designed to be a substitute for competition in an area of business operation where competition would be undesirable. Those who have studied or become accustomed to such regulation know the reasons for this substitution. Back in the days of unnecessary or unwise competition between telephone companies, it was necessary for merchants, professional men, and others to subscribe to two or three different telephone services to be sure of a telephone connection with their customers or clients. And so it was in the case of street railways, railroads, gas, and electric companies.

TODAY there is little quarrel with the proposition that competition between utilities of the same kind in the same service area is economically unsound because it involves wasteful duplication of facilities which increases the cost of service to all in the long run. Obviously, to grant any utility business an area monopoly without further regulation would be to invite exploitation of the public which could then be served and charged in that area on the basis of what the traffic would bear.

NOBODY questions this fundamental principle of regulation today. As Chief Justice Waite of the U. S. Supreme Court

said of the utilities over eighty years ago in writing the opinion in the landmark decision in *Munn v. Illinois*: "They stand in the very gateway of commerce and take toll of all who pass." But in our general agreement with and acceptance of regulation as a substitute for area competition in the public utility business, we sometimes overlook factors and pressures moving in the other direction. That is to say, a utility business which once had a monopoly may no longer have one under changing economic circumstances which have nothing to do with regulation.

WHO would say, for example, that the railroads any longer have any monopoly on passenger business? On the contrary, most railroads east of the Mississippi give the impression that they would just as soon get out of the business of transporting passengers, regulation or no regulation. It has even been suggested that if regulation of the railroads, both at the federal and state levels, were abolished overnight, the railroads would find themselves not much better off, economically speaking, for being free to fix their own charges.

A SOMEWHAT similar pattern seems to be emerging in certain fringe areas of other public utility operations. The telephone companies are finding themselves in competition with nonregulated industries in the newly developing area of microwave communication. With the increasing price of natural gas, some distributing companies foresee competition for space-heating business with other fuels in the future, or at least more so than in the past. The use of rival fuels for the generation of electricity has become an economic contest in different areas where the price of natural gas has become competitive with coal, or vice versa. What happens when regulation, which presumes a certain measure of protection of area business, continues to be exercised not-



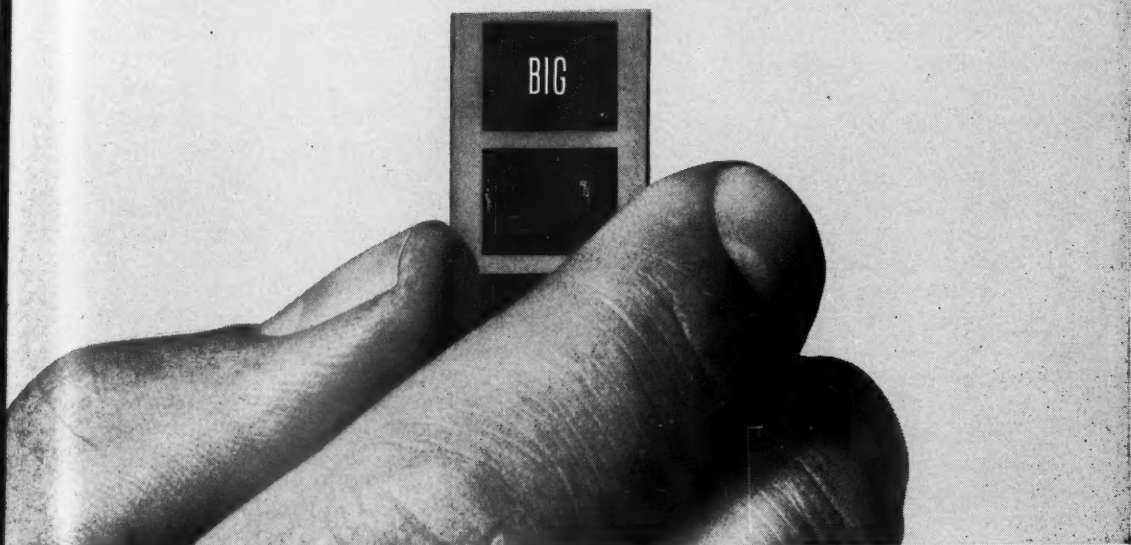
CHARLES F. PHILLIPS, JR.

Utility record problems too

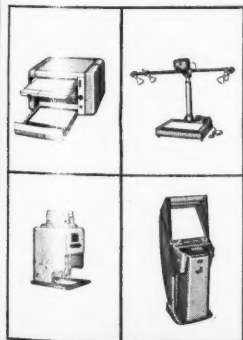
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withstanding the revival or infiltration of competitive influences?

THEN there is also the problem of just how much the protective mantle of a regulated economy is worth, in terms of profitable operation. It has usually been assumed in the past that a public utility, being a protected, regulated monopoly, cannot expect as high a return on its operation as an unregulated competitive business exposed to the risks of an open market place. But how much difference should there be, if the regulated utility is to attract the necessary capital for expansion in the same money market where unregulated enterprise goes for its capital requirements? There is certainly no such thing as a monopoly in the money market. If the utility enterprise cannot pay a sufficient return to suit the investor, he will turn elsewhere and there is nothing either the utility management or the utility regulators can do about it. What we call a monopoly in the utility business is strictly a service area protection. It applies to no other phase of utility business which must compete for men, money, and materials with all other lines of business, regulated or unregulated.

ALL the articles in this issue deal in varying respects with this central problem of determining the impact—financial, economic, and otherwise—of regulation on the utility business. The opening article, "Regulation in a Competitive Economy," takes up the question of balancing the impact of regulation as against the ebb and flow of competitive influences. The second instalment of the two-part article on "What's in Store for Public Utility Financing?" (beginning on page 799) deals with the regulatory roadblocks which have been developing for public utilities in the financial area. And the article on pay-out policy for dividends in the electric power industry (beginning page 810) reflects the rivalry of various forms of incentive for different classes of investors.

CHARLES F. PHILLIPS, JR., author of the opening article on regulation in



FRANKLIN H. COOK

a competitive economy, is at present an assistant professor of economics at Washington and Lee University. He is a native of New York state and received his education at the University of New Hampshire (AB, cum laude, '56) and Harvard University (PhD, '60). His present teaching duties involve instruction in government and business (antitrust policies, public utilities, and transportation). He has written a number of articles and made several addresses on these subjects.

* * * *

FRANKLIN H. COOK, professor of the Department of Commerce, College of Business Administration, The Pennsylvania State University, is the author of the article beginning on page 810 on the subject of "Pay-out for Capital in the Electric Power Industry." Cook is a native of Pennsylvania and was educated at Bucknell University (AB, '33), Duke University (LLB, '36), and The Pennsylvania State University (AM, '40). He has been active in the affairs of the American Economic Association and the American Association of University Professors. He has written many articles on public utility economics and accounting.

THE next number of this magazine will be out December 8th.

The Editors

CONTINUING TO SERVE BUSINESS AND INDUSTRY

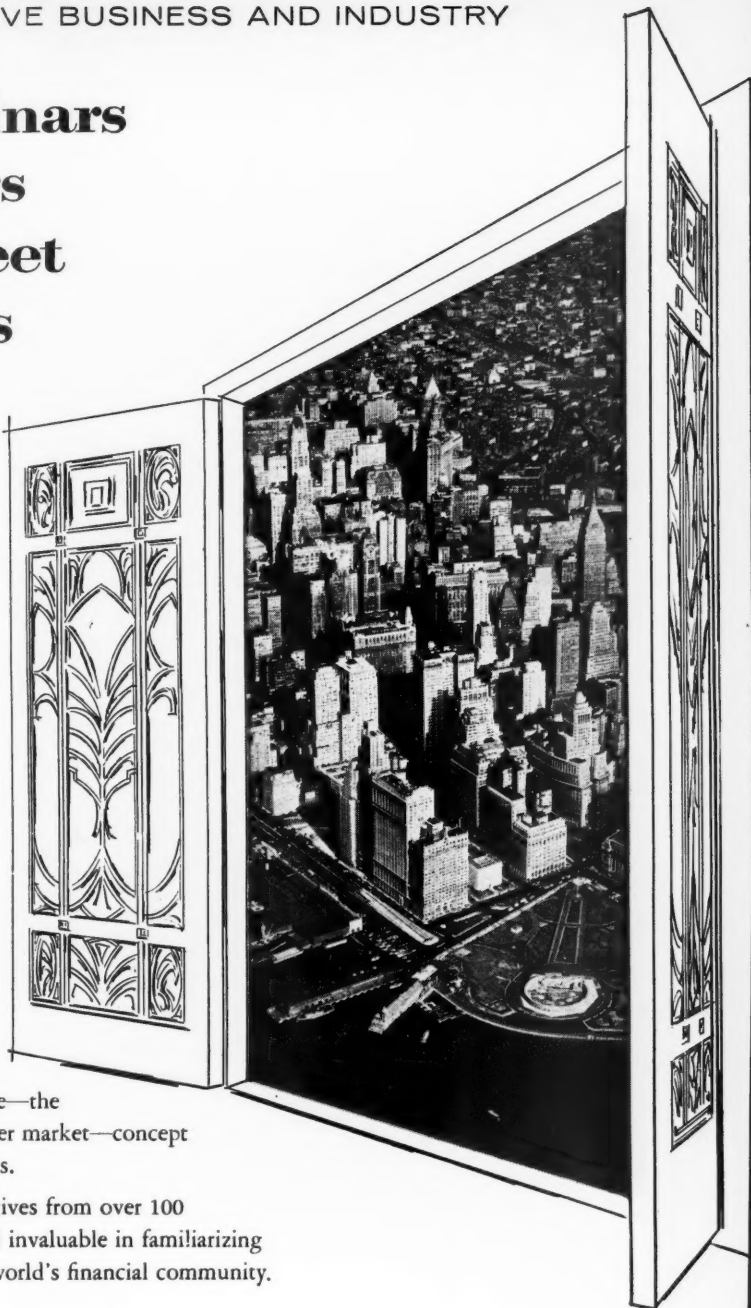
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Here's a brief list of some of the doors Irving opens for Public Utility executives during a Seminar Week:

Inside view of rating agencies—explanation of the functions of the investment banker—operations of the stock exchange—the broker and dealer and the over-the-counter market—concept of regulation—cost-of-capital—and others.

So goes a typical week that utility executives from over 100 companies across the country have found invaluable in familiarizing themselves with the ins and outs of the world's financial community.



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Coming in the Next Issue...

(DECEMBER 8, 1960, ISSUE)

PUBLIC RELATIONS FROM THE REGULATORY VIEWPOINT

How often does it happen that soon after a petition for a rate increase is filed by a utility company, a statement appears in the financial section of the local newspapers to the effect that the company has experienced record earnings or at least earnings exceeding previous comparable periods, and so forth? To those familiar with the relationships between revenue requirements and earnings reports, there is no basic consistency here. But it does mean a public relations headache which might otherwise be avoided by astute timing or explanation of what is going on on both sides of the same financial coin of company operation. Commissioner Cyrus J. Colter of the Illinois Commerce Commission points to other pressing public relations problems—those experienced by the regulatory authority which must pass fairly on rate petitions against a background of general public information or misinformation.

SHOULD REGULATORY COMMISSIONERS COME FROM STAFF PERSONNEL?

Early in the first Eisenhower administration there was noted a tendency not only to give federal regulatory appointments to state commissioners with a background of regulation, but also to elevate staff or career men with a similar background at the staff level. Dr. Lincoln Smith of New York University has made another of his investigations and analyses into the trends and practices, as well as the arguments pro and con, on the subject of making commissioners out of staff personnel. There are arguments both for and against, of course, but on the balance the verdict seems to be favorable. Whether this trend will continue during the next administration remains to be seen.

MORE ON THE TELEPHONE HOUSEHOLD

A year ago there appeared in **PUBLIC UTILITIES FORTNIGHTLY** an article analyzing the economic characteristics of the telephone household. Charles B. Saunders, assistant professor of business administration of the University of Kansas, has followed up this earlier study with a rather extensive survey of characteristics of 270 households in Lawrence, Kansas. While these may not be typical of the national pattern, they do point to some interesting and significant indications of choice, based on age, income, and tenure of residence.

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*Traffic director, Baltimore,
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WILLIAM HENRY CHAMBERLIN
Columnist.

"This country was founded on the proposition that the best antidote to wild and foolish talk is to tolerate it, so long as there is no incitement to sedition or violence. Part of the price of free speech for all of us is that some of us will express ideas and opinions that are foolish and ignorant and irresponsible."

BARRY GOLDWATER
U. S. Senator from Arizona.

"The ivory tower visionaries who produce the blueprints for the superstate, refuse to take into account the differences between men. If government is to be truly the servant of the people and not their master, we must never permit ourselves to presume that because something is good for one man it is good for all men."

JOSEPH SHARFSIN
*Member, Pennsylvania Public
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"We are fast approaching a mass transit crisis in many cities with increased costs of operation on one hand and declining patronage and revenues on the other. Public transit is an absolute necessity and my observation is that it has not been given the necessary consideration by the city planners and engineers responsible for traffic control."

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The Wall Street Journal.

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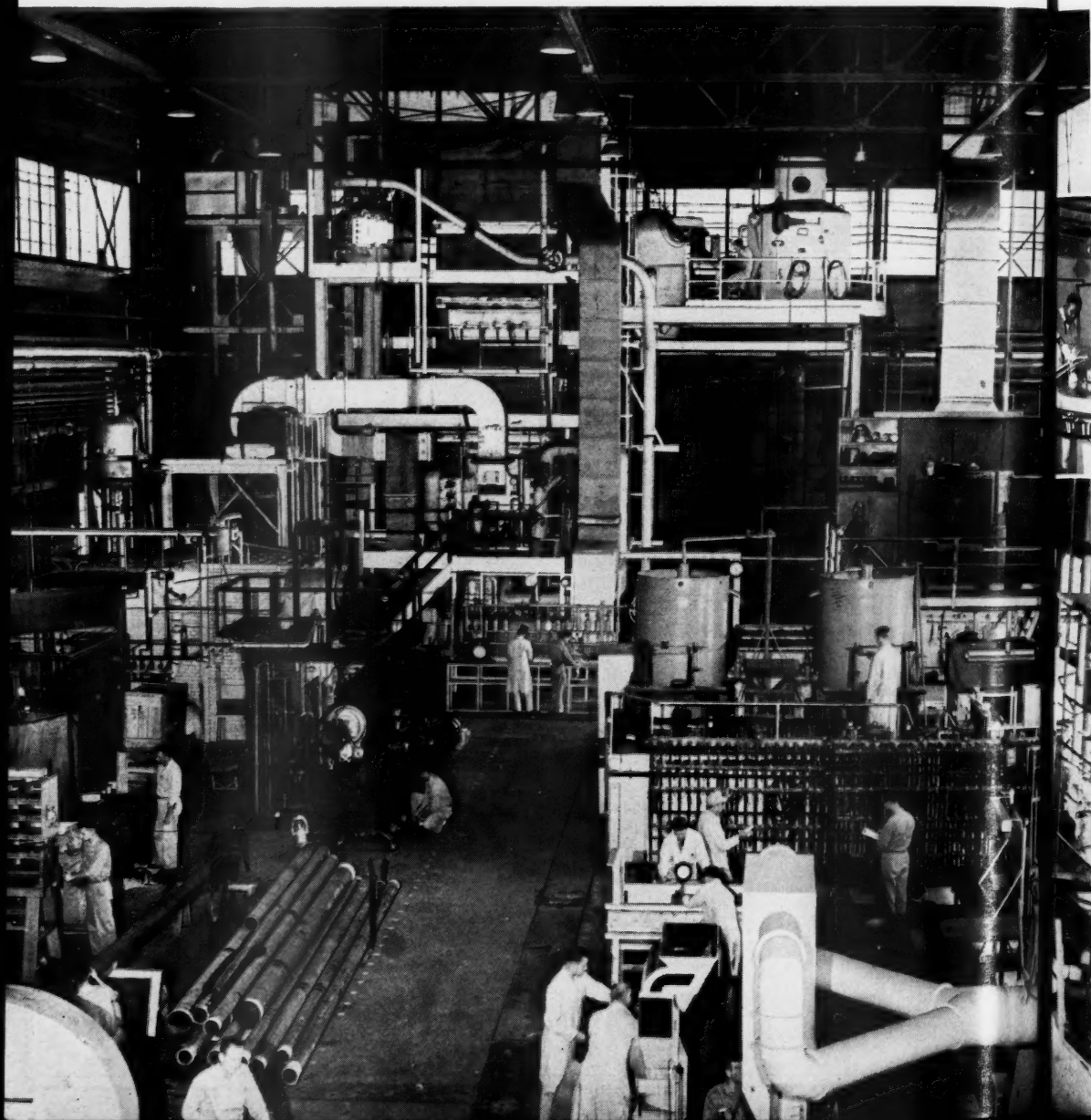
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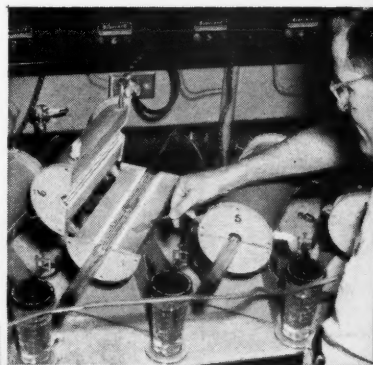


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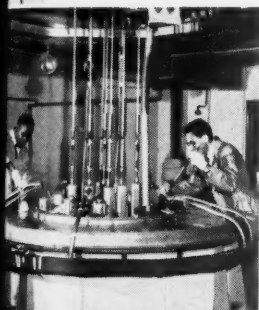
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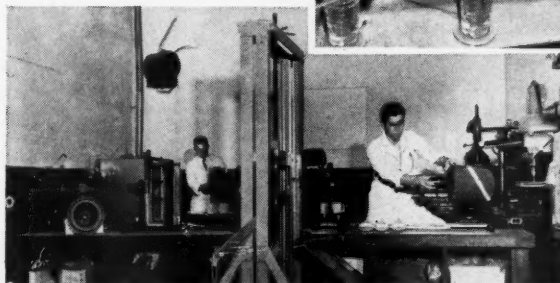
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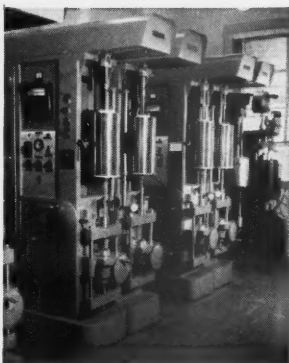
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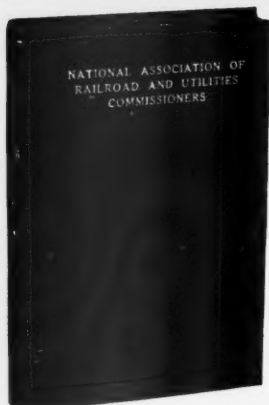
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**NATIONAL ASSOCIATION OF RAILROAD AND
UTILITIES COMMISSIONERS**

P. O. BOX 684

Washington 4, D. C.

Utilities Events Calendar

CHECK THESE DATES:

Nov. 25-27—National Association of Television and Radio Farm Directors will hold annual meeting, Chicago, Ill.

Nov. 27-29—National Commercial Refrigerator Sales Association will hold meeting, New Orleans, La.

Nov. 27-Dec. 2—American Society of Mechanical Engineers will hold winter annual meeting, New York, N. Y.

Nov. 27-Dec. 2—Investment Bankers Association of America will hold annual convention, Hollywood, Fla.

Nov. 28-29—Florida Telephone Association will hold annual convention, Jacksonville, Fla.

Nov. 28-30—American Gas Association-Edison Electric Institute will hold joint electronics seminar, Atlantic City, N. J.

Nov. 28-30—American Society of Heating, Refrigerating, and Air Conditioning Engineers will hold semiannual meeting, St. Louis, Mo.

Nov. 28-Dec. 1—National Association of Railroad and Utilities Commissioners will hold annual convention, Las Vegas, Nev.

Nov. 28-Dec. 2—National Exposition of Power and Mechanical Engineering will be held, New York, N. Y.

Nov. 30—Electric Companies Advertising Program will hold copy group meeting, New York, N. Y.

Nov. 30-Dec. 1—Edison Electric Institute, Street and Highway Lighting Committee, will hold meeting, Cincinnati, Ohio.

Dec. 1-2—Pacific Coast Electrical Association-Pacific Coast Gas Association will hold administrative services conference, Scottsdale, Ariz.

Dec. 5-7—American Society of Agricultural Engineers will hold winter meeting, Memphis, Tenn.

Dec. 5-7—Interstate Oil Compact Commission will hold annual meeting, Phoenix, Ariz.

Dec. 5-8—National Conference on the Application of Electrical Insulation will be held, Chicago, Ill.

Dec. 5-9—American Gas Association will hold gas air-conditioning sales school, Columbus, Ohio.

Dec. 8—Edison Electric Institute, Industrial Relations Committee, will hold meeting, New York, N. Y.

Dec. 8-9—American Gas Association-Edison Electric Institute, Depreciation Accounting Committee, will hold meeting, Atlanta, Ga.

Dec. 12-15—American Nuclear Society will hold annual winter meeting, San Francisco, Cal.

Dec. 12-15—1960 AtomFair-West will be held at the Masonic Memorial Building, San Francisco, Cal.

Dec. 12-15—Industrial Building Exposition and Congress will be held, New York, N. Y.

Dec. 13—Electric Companies Public Information Program, Steering Committee, will hold meeting, Chicago, Ill.

Dec. 14-16—Atomic Industrial Forum will hold annual conference, San Francisco, Cal.

Dec. 15-16—Edison Electric Institute, Residential Electric Heating and Air Conditioning Committee, will hold meeting, Cincinnati, Ohio.



Courtesy, Bell Telephone Company of Canada

Growing a Pole?

A line foreman of the Bell Telephone Company of Canada appears to be watering this pole in Montreal. Actually, he is applying a preservative that will keep things from growing, notably destructive fungi and rot, which are the bane of telephone poles in Canada, just as they are elsewhere.

Public Utilities

FORTNIGHTLY

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Regulation in a Competitive Economy

By CHARLES F. PHILLIPS, Jr.

Although it is commonly said that regulation is a substitute for competition in those lines of business—namely, utilities—where competition is not practical, regulation itself must be subject to constant study and occasional improvement to keep it functioning as intended. This author suggests four principles for the improvement of regulation in the interest of both fairness and efficiency.

IN the past few years, there has been an increased interest in the rôle and activities of the independent regulatory commissions. In part, this interest is due to the difficulties encountered by certain of our regulated industries, notably the airlines and the railroads. And in part, it is the result of the increasing rôle played by government in American economic affairs. Partially in response to recent criti-

cism, the Senate Interstate and Foreign Commerce Committee plans to hold extensive hearings next year on just how well the regulatory agencies are doing.

Among the many questions raised by the regulatory process, there is one which deserves much more attention than it has been accorded in the past; namely, how much and what kind of regulation is necessary in the best long-range interest of the public? It is on this fundamental question that I wish to make a few observations.

*Assistant professor of economics, School of Commerce and Administration, Washington and Lee University, Lexington, Virginia. For additional personal note, see "Pages with the Editors."

PUBLIC UTILITIES FORTNIGHTLY

Competition and Regulation

It is well-known that competition is not an end in itself, but rather a means to an end. That end: efficient resource allocation throughout the economy, a higher standard of living for all, and the preservation of personal freedom. To attain this end, competition has at least six major functions: (1) encouragement of technical progress; (2) promotion of efficiency; (3) regulation of profits; (4) lowering of prices; (5) providing better quality of goods and services; and (6) adjusting supply to demand. Competition is thus a regulator. It penalizes inefficiency and rewards efficiency. It induces progress.

In a competitive economy, the absence of competition without regulation is not thought to be in the public interest. Such a situation can lead to inefficiency, technological stagnation, rigid prices, and excessive profits. Therefore, since public utilities are not subject to competition in the same sense as other industries, they should be regulated. But it is equally clear that such regulation under our economic system is justified only as a substitute for competition.

Regulation of public utilities should involve, therefore, a sound application of the economic principles of the American economic system. It should attempt to put regulated industries under the same restraints as the unregulated industries.

When stated that regulation should follow the guide of competition, much is being asked. As the American economy has evolved, there are indications that we have little faith in economic planning by the government. At the same time, regulators are asked—indeed ex-

pected—to exercise the judgment of thousands of consumers in the evaluation of public utilities' efficiency, service, and technical progress so that a fair profit can be determined. Such regulation is now, and always will be, a difficult process. But it is not an impossible one.

Phases of Regulation

ONE utility executive, speaking about the history of regulation in the United States, commented as follows:

The history of modern public utility regulation consists of three major phases—legislative, judicial, and administrative . . . The legislative phase (1887-1890) established the authority of state regulatory commissions. The judicial phase (1890-1933) was concerned with the economic results of regulation so that application of the decisions of regulatory bodies would result in an approximation of what happened in competitive industry. The administrative phase (1933 to date) has been largely concerned with making regulation the universal application of accounting formulae, thus giving more consideration to expediency than to equity.

This, I think, is the crux of the present regulatory problem. More and more has regulation encroached into the area of utility management. At the same time, utility commissions have taken little or no initiative in developing standards to govern the quality of service. In decisions regarding the general level of rates, they have exercised no real control over operating costs. Methods of accounting have been prescribed, but commissions

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have not regularly audited company accounts. And in determining the rate base and fixing the rate of return, no clear economic principles have been developed. In all of these and other matters, as the job has become more complex, regulation has tended to lag.

Regulatory Delay

FROM a procedural viewpoint, perhaps the most serious defect in the regulatory process is delay. The Federal Power Commission's 1959 annual report states:

The backlog of both independent producer and pipeline rate increase suspension proceedings increased by more than 50 per cent during the year, while the number of other rate matters rose by 20 per cent. At year's end the FPC had pending before it 1,773 rate suspensions involving \$446 million annually in increased revenues.

The increasing work load stems from several factors. In some cases, new legislation has placed more responsibilities upon an agency. Inflation throughout the economy has also been a contributing factor, as higher costs have made it necessary to apply to commissions for increased rates. This factor, combined with the cumbersome regulatory procedures, contributes greatly to the delay in regulation. Moreover, regulatory agencies have been faced with an increasing number of parties intervening in administrative proceedings, each demanding to be heard.

The net result of delay is often injustice to both the utilities involved and to the public at large. To the utilities, delay often means that before a final de-

termination is made the rates fixed on the basis of the test period are outdated. To the public, delays may throttle the progress and efficiency of regulated industries, to say nothing of the expense involved.

Can Regulation Be Improved?

FROM past experience, therefore, regulation has been far from ideal. What can be done to improve regulation in the future?

1. FIRST, and perhaps foremost, we need to re-examine the purpose of regulation. Americans have accepted the belief that a competitive economic system is better than any other. Americans have also accepted the principle that a monopoly should be regulated because the normal competitive pressure is absent. It logically follows then that the absence of competition is the only justification for regulation of public utilities. When regulation does not accomplish the goals earlier outlined, or when it goes beyond these goals, conflicts are inevitable. And when regulation begins to take over the job of utility management, we find ourselves in a situation often described as one



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in which the commissions have "power without responsibility."

Regulatory agencies and the public alike must recognize that competitive conditions are continuously changing. Regulation must be up to date. Too much regulation can be as damaging to the public interest as too little regulation. Thus, the Mueller report on Federal Transportation Policy and Program recently stated: "In the long run, transportation should operate the same as the rest of the American free enterprise system. Regulation is needed primarily to protect the public against monopoly abuses, and as competition grows in transportation, regulation should shrink."

TODAY, although public utilities are monopolies in the legal sense, they are not free from competition in the business sense. Virtually all utilities have increasing direct competition with other products, as well as indirect competition for the consumer's dollar. As this competition increases, the regulation of the market place also increases. The latter is the soundest form of all regulation and it should be permitted to perform its economic function. And as the regulation of utilities in the market place increases, the purpose and essentiality of the regulatory agencies decreases.

Perhaps no case is so illustrative of this first point as the railroad industry today. Not only have railroads been subject to increased competition from trucks, airplanes, and ships, but also from pipelines. For example, the Cleveland Electric Illuminating Company currently receives 44 per cent of its annual coal requirements by pipelines. To continue to regulate the railroad industry as a natural

monopoly is, I think, detrimental to the entire economy.

2. SECOND, and closely connected with the first, we need to re-examine the procedures of regulation. The goal, of course, would be the elimination of unnecessary delay and the increasing of efficiency. Inherently, regulation is slower than competition. It must satisfy the requirements of due process: investigate, give notice, hold hearings, study the record, make findings, issue orders, permit appeals.

While slower than competition, regulatory procedures could be greatly streamlined and the final determination of rates expedited without sacrificing due process. Should three or four groups be permitted to appear before a commission presenting the same points of view? Are the four major functions of the typical regulatory commission—policy making, administration, investigation, and adjudication—compatible? Can regulators be judges? Have commissions spent too little attention to developing standards and objectives and to planning the regulatory program? Are regulatory staffs commencing and conducting investigations without adequate instructions or directions?

These are difficult questions at best, but they have received far too little attention. Unless regulatory procedures are more efficient, delays are destined to become even greater in the future.

3. THIRD, we need to return to sound economics in regulation in order that the purposes of regulation can be accomplished. A former member of the New York Public Service Commission put it this way: "I think if we are going to

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have successful regulation the thought—and, again, I think you can't legislate it—the thought must be that we are dealing, not with disciplining a monopoly, but we are dealing with a straight economic problem."

At both the state and federal level, this requires trained people on the staffs of the regulatory agencies. As a recent report stated: "Regulatory commissions must be staffed by able, progressive personnel who have had adequate training and background experience so as to supply expert judgment in resolving in the public interest the wide range of complex economic, social, and legal problems posed by regulation of large enterprises." Regulatory agencies must become more dynamic in the future, and this implies that they must be given the necessary funds and man power.

UNFORTUNATELY, the selection of men for membership on regulatory commissions is often based upon political consideration, political affiliation, and also geographical distribution. The retention of able administrators is difficult, as witnessed by the rapid turnover in the membership of the commissions. Thus, in its

twenty-one years of existence, the five-man Civil Aeronautics Board has had a total of twenty-three members, with an average tenure of four and one-half years, and twelve chairmen. Such a high turnover greatly complicates the problem of policy determination.

Unless regulatory agencies are staffed with men of high caliber, regulatory thinking will continue to lag. Administrative agencies are only as efficient and effective as their members.

4. AND fourth, public utility management must take a more active rôle in the future. Often the comment has been heard that regulation has stymied management incentive and initiative for so long that public utilities have lost their supply of top management personnel. After extensive traveling this summer visiting various utility management groups, I am convinced that this is not true. At the same time, most management people admitted that public relations regarding regulation has been lax. It is still up to management to take the initiative and to come forward with appropriate proposals for adjustment.

Even within present regulatory policies,

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management could do much to improve their company positions. The railroad industry in the past year seems to have recognized the importance of positive public relations and policy programs.

Conclusions

IF these four suggestions could be carried out, the future of regulation would look much brighter from the point of view of both utility management and the public. Moreover, I suspect that current economic, technological, and competitive conditions would justify elimination of regulation in some areas, and modification in others. This does not imply that regulatory agencies should be eliminated or all regulatory laws repealed. Rather, it suggests a reappraisal of the purposes and goals of regulation in the light of current business and competitive conditions.

There is one further comment: In gen-

eral, and in spite of many apparent weaknesses and defects, the economy has not been severely hurt by restrictions on public utilities—so far. In part, this may be due to certain fortuitous characteristics of most public utilities, such as dynamic growth. As a result, their financial strength and ability to operate effectively under regulatory restrictions have not yet really been tested. However, the present railroad situation, and perhaps even that of the airlines, indicates what present regulatory policies might mean for other utilities in the future.

Although there are differences between public utilities and nonregulated companies, this does not mean that utilities lead a sheltered life. Utilities have many problems similar to nonregulated companies. Regulation, therefore, must be as flexible as competition. Only in this way can public utilities continue to perform their important rôle in the American economy.

Is the Automobile Headed for Obsolescence?

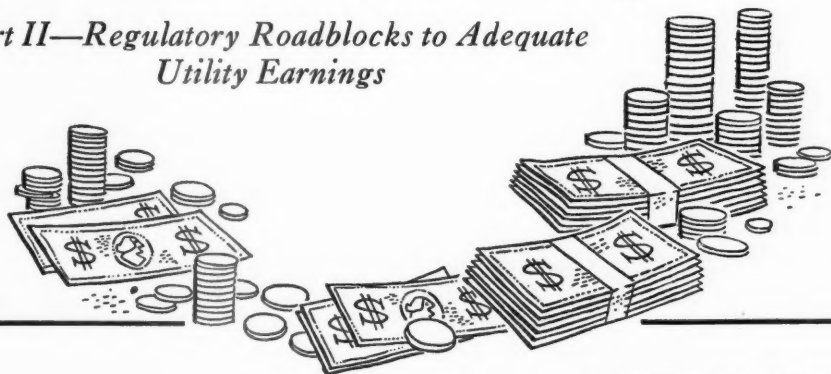
"... Highways are not the answer to a city's mass transportation needs for the simple reason that the private car is the least efficient form of mass transportation. Everyone knows it, yet few are willing to face its implications. In Baltimore, as elsewhere, all thinking has been beclouded by the fear that if provisions are not made for people to drive their own cars to work or shop downtown and leave them there for as long as they want to, business will go elsewhere. Such a fear is ... suicidal.

"The answer to Baltimore's or any city's mass transportation needs is not the private automobile but an adequate and attractive mass transportation system. Everyone knows that, too. Yet little is coming of that awareness."

—EDITORIAL STATEMENT,
The Sun (Baltimore, Maryland).

What's in Store for Public Utility Financing?

Part II—Regulatory Roadblocks to Adequate Utility Earnings



By FERGUS J. McDIARMID*

The author finds that there are two definite regulatory roadblocks in the way of ensuring public utility industries of the confidence of investors in the future. First is the predilection of commissions for the traditional rate base approach, which is viewed here as a device of expediency rather than equity. Second is the exclusive cost-of-money approach to the determination of a reasonable return which this writer feels has collapsed, as far as economic justification is concerned.

IN a recent article in the FORTNIGHTLY, I pointed out the very wide disparity which exists among the earnings performances of 131 electric utilities. In view of the fact that this is a strictly regulated industry, using the same type of equipment to render a highly uniform type of service, this difference in performance is surprising. Part of it may be ascribed to differences in territorial growth, part is no doubt due to differences in management, but a large part may only be explained by varying regulatory climates.

I hope that I have made clear that the rather favorable performance of the

stocks of these companies earningswise, taken as a whole, and the excellent performance of some of them is not due to excessive rates of return but to two fortuitous factors, the continuance of which is not at all assured. One of these is the artificially low cost of senior capital now outstanding, which has already undergone some upward shift which shows every sign of continuing. The other is the buoyant market for utility common stocks which enables new stock to be sold in most cases well above book value and at a relatively high multiple of current earnings per share.

The stock market is, of course, subject

*Vice president, The Lincoln National Life Insurance Company, Fort Wayne, Indiana.

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to wide fluctuations downward as well as upward, as its record clearly shows.

Growth and Return

IN order that utility stocks may meet a relatively favorable reception in whatever level of the stock market that prevails, an increasing trend in per share earnings is necessary. Two principal factors are important in accomplishing this: growth in the business and an adequate return on total capital. Of these two, the latter is the more important.

Let me illustrate with some examples which are typical of certain groups of utilities. Utilities A, B, and C are assumed to have the same capital structures consisting of 65 per cent senior capital, bonds and preferred stock, carrying an average interest and dividend rate of 4 per cent, and 35 per cent common stock equity. In each case, the common stock is assumed to have a book value including par value and surplus of \$100 a share. Furthermore, it is assumed that this capital structure will be maintained, but that additional senior capital will cost 5 per cent. In my opinion, this is probably too low an assumption, but one with which it is easy to work.

Utility A is a company experiencing somewhat below-average growth and suffering from either lethargic management or punitive regulation, or both. It is earning only 5 per cent on its book capital and, believe it or not, there are still a number of electric utilities currently earning even less than this. The stockholders of this company have not quite given up hope, and its stock sells at 100 per cent of book value or 14.3 times current earnings per share. Utility A expects to increase its

capital 35 per cent over the next five years, or 7 per cent a year, which is probably below average for the industry, but which reflects the fact that even sluggish utilities require a lot of new capital to keep going. Utility A pays out 90 per cent of its earnings in dividends and will continue to do so. The regulatory commission to which it is subject cannot quite distinguish as yet between common stock and fixed-dollar securities. It thinks that this company is doing fine if it is permitted to just about earn the same dollar dividend on its common stock which it has been paying these many years.

UTILITY B is about average for the industry. It is earning 6 per cent on its book capital, which is not enough. However, 43 per cent of all electric utilities at last reading were earning this amount or less. It regularly pays out 70 per cent of its earnings in dividends which is a slightly below-average percentage. Its stock sells at 175 per cent of book value and at 18 times earnings per share, which is very close to the industry average at this time and indicates a good deal of optimism with respect to the future on the part of the market place. A 50 per cent increase in book capital over the next five years is projected, or at an annual rate of 10 per cent of present capital per year.

Utility C is a front runner. It is earning 7 per cent on its book capital, a rate which is equaled or exceeded by about 15 per cent of electric utilities today. These companies are quite widely scattered throughout the country in eleven states. Because of its past favorable performance and good prospects, its stock sells at 300 per cent of book value and close to 24 times earnings per share. It pays out only 50 per cent of

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its earnings and has made good use of the rest which it has retained. It serves a rapidly growing territory and projects a 75 per cent increase in book capital over the next five years, or an addition equal to 15 per cent of present capital in each of these years.

IN making projections for the next five years, we shall assume that Utilities A, B, and C can sell their common stock, which now has a book value of \$100 per share, at multiples of 100 per cent, 175 per cent, and 300 per cent of book values throughout the period. It is further assumed that their rates of return on book capital of 5 per cent, 6 per cent, and 7 per cent, and their pay-out ratios of 90 per cent, 70 per cent, and 50 per cent will remain unchanged. On the basis of these assumptions, the results over a five-year period are summarized in Table I.

Over the four years 1955-59, the median increase in per share earnings of 131 electric utilities was around 20 per cent, or 5 per cent a year. According to Table I, Utility B will exactly achieve such a rate of increase while Utility C will increase its per share earnings 49 per cent, an increase exceeded by some growth utilities in the last five years. The less said about Utility A, the better, as its per share earnings are projected to decline.

It will be further noted that while Utility A had to increase its common shares by 31 per cent to finance a 35 per cent capital increase, Utility B financed a 50 per cent increase by only a 17 per cent increase in shares and Utility C, a 75 per cent increase by only a 10 per cent increase in shares outstanding. The more above book value that a stock sells, the more profitable it becomes to finance new equity requirements through retained earnings. This in turn depends upon the rate of return earned and the rate of growth. In the case of the utility earning a substandard rate of return and with its common stock selling close to book value, the rewards to stockholders from earnings plow-back are minimized.

How Important Is Growth Alone?

IT is not possible to isolate the importance of growth alone in an exact way because the market is prepared to pay something for this growth in advance. However, in order to obtain some indication of the relative importance of growth alone, I assumed that Utilities A, B, and C all earned 6 per cent on their capital, all could sell common stock at 175 per cent of book value, and all paid out 70 per cent of their earnings in dividends. I assumed that this state of affairs

TABLE I

	Utility A	Utility B	Utility C
Return on Book Capital	5%	6%	7%
Book Value Per Share Common	\$100	\$100	\$100
Market Price Per Common Share	\$100	\$175	\$300
Initial Earnings Per Share	\$ 6.86	\$ 9.71	\$ 12.58
Initial Price-earnings Ratio	14.6	18.0	23.9
5-year Capital Increase	35%	50%	75%
Common Earnings Retained	10%	30%	50%
5-year Increase in Common Shares	31%	17%	10%
Earnings Per Share after Five Years	\$ 6.58	\$ 11.65	\$ 18.73
5-year Increase in Earnings Per Share	- 4%	20%	49%

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would continue over the next five years. The growth rates in capital over these years were retained at 35 per cent, 50 per cent, and 75 per cent, respectively. The increases in per share earnings resulting from these varying growth rates are presented in Table II.

These increases ranged from 17 per cent in slow-growing A to 25 per cent in fast-growing C, which is a quite modest spread. Apparently growth in itself is not a major contributor to a rapid increase in per share earnings, unless this growth induces the market to pay a premium price for the stock. In such event, the market would be, to some extent, feeding on itself and the last ones in at the highest prices would probably fare poorly, unless, of course, the rate of return on capital could be raised.

THESE calculations seem to indicate that in the long run there is no real substitute for an adequate rate of return. The favorable increase in earnings per share of common stock, which many utilities have enjoyed in recent years, has resulted in substantial part from a very favorable market for these stocks. This, together with a retention of earnings, has held the dilution of per share earnings to a minimum. If by some chain of events now unforeseeable, but perfectly possible,

the average price-earnings on electric utilities should decline from a present level of about 18 times to the 9 to 12 times now experienced by some leading oil stocks, the situation would be radically changed.

Increases in utility earnings per share by the fortuitous process just described are, of course, welcome to stockholders. They may, however, tend to obscure the fact that in the long run, or even in the not-so-long run, there is no substitute for earning power arising from an adequate rate of return on the investment. They may even make such a return harder to obtain. A good third of all electric utilities are now earning well under 6 per cent on their book capital. Since this includes some of the largest companies, the average return on the total book capital of all electric utilities is now probably under 6 per cent. In view of the huge financing program ahead of the industry and the inevitable rise in the average cost of its senior capital, this is hardly a healthy state of affairs.

How Effective Is 6 Per Cent Today?

As a rate of return on invested capital, 6 per cent has a status in popular thinking which it no longer deserves. In low-tax, preinflation times 6 per cent gross was nearly equivalent to 6 per cent net. Today, viewed as an interest rate subject to taxes and the erosion of inflation on



TABLE II
EFFECT OF GROWTH ON EARNINGS PER SHARE

(Assumes 6 Per Cent Return on Capital, Market Price Per Share 175 Per Cent of Book Value, and 30 Per Cent Retention of Earnings for All Companies.)

	Utility A	Utility B	Utility C
Initial Earnings Per Share	\$ 9.71	\$ 9.71	\$ 9.71
Earnings after Five Years	11.34	11.65	12.13
Percentage Increase	17%	20%	25%

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principal, it has lost a great deal of its former significance. If the tax rate to the recipient is 40 per cent, which incidentally is about the rate now paid by some life insurance companies on their taxable interest income, a 6 per cent rate is immediately knocked down to 3.6 per cent.

Now, consider the impact of inflation.

During the last twenty years our dollar, according to the Consumers Price Index, lost value at an average rate of 4 per cent a year compounded. During the last ten years the average loss rate was about 2 per cent. During the period since the end of the Korean War, it has averaged 1.3 per cent a year. This was during a political administration pledged to the maintenance of sound money. In view of the pledges made in recent political platforms, does anyone expect the loss in money value to be less in the future? Assuming a 1.3 per cent annual loss in principal value through inflation, our 6 per cent interest rate is further reduced to a level of 2.3 per cent net. If the tax rate were only 20 per cent, the lowest rate paid by individuals, the 6 per cent gross rate would be reduced to 3.5 per cent net. These figures, of course, do not take into account state and local taxes. To any

thinking person able to do simple arithmetic, 6 per cent has lost any glamour it once possessed.

AND now for some practical present-day illustrations. Six per cent was until quite recently about the rate that commercial banks in the United States charged some borrowers of highest credit standing for short-term loans. This was based upon a prime rate of 5 per cent. However, the banks have an ingenious device known as compensating balances by which many borrowers must keep on deposit with them, without interest of course, 15 per cent or 20 per cent of the amount borrowed. On the part of the loan which the borrower was able to withdraw and use, therefore, the 5 per cent prime rate produced an interest cost of a little more or a little less than 6 per cent, depending on the amount of the compensating balance. Quite recently the prime rate was reduced to $4\frac{1}{2}$ per cent, but the proportion of borrowers who qualify for it has probably also been reduced.

Even at its present level the cost of borrowing money in this country is out of line on the low side compared with that prevailing in other leading countries.

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In Great Britain the prime bank loan rate is now $6\frac{1}{2}$ per cent, in France it is $7\frac{1}{4}$ per cent, in Germany it is 8 per cent, and in Japan it is 9 per cent. These countries, which have experienced a greater degree of inflation than we have to date, apparently consider high interest rates a modest price to pay for maintaining the value of their money. Since general convertibility was established in 1958 the money markets of the free world are interconnected and capital tends to flow where it can earn the best return, risk factors considered. The existing disparity between interest rates abroad and here, coupled with our current adverse balance of payments on international account, is now causing a renewed outflow of gold. Our remaining gold reserves of about \$19 billion are at their lowest level of twenty years and are now less than the total of foreign short-term claims against them. Under such circumstances it seems unlikely that the present wide differential between borrowing costs here and abroad can long continue.

Some Other Examples

SOME financial institutions, such as life insurance companies in this country, have recently been able to invest in taxable bonds at interest rates averaging 6 per cent or more. One such company in the first six months of this year purchased about \$23 million of such bonds at an average rate of about $6\frac{1}{4}$ per cent. These bonds included finance company debentures, industrial bonds, and public utility bonds. Some of the bonds carried the additional sweetening of convertibility into common stock.

Looking abroad again, we note that the rediscount rate of the Bank of England,

which corresponds to our Federal Reserve rediscount rate, is now 6 per cent. This bank rate, as it is called, during the entire period from 1932-50 was maintained at a steady 2 per cent except for a brief upward move to 4 per cent in 1939. In 1957, as an antidote to weakness in the pound sterling, it was pushed to 7 per cent. A number of outstanding bond issues of the British government currently sell to yield well in excess of 6 per cent so that bank rate at 6 per cent does not appear out of line with money market conditions.

I CITE these examples to show that in our capital-short world of today, in which the demand for savings tends to outrun what people are willing to save, the relative status of 6 per cent has undergone a great and fundamental change. This change, however, has had only minor reflection as yet in what public utilities are being permitted to earn. Nearly half of all electric utilities are still earning 6 per cent or less on their stated capital. Since this list of low earners includes most of the very large companies, it seems obvious that most of the industry in a physical sense is probably earning less than 6 per cent on its book capital. Extended into the future this is likely to prove a quite intolerable situation.

But, someone may ask, "Is not 6 per cent on loan capital a different thing from 6 per cent on public utility property?" Not if the rate base is original cost. For in such a case the rate of return is not allowed on the real value of the property, but on a certain specified number of dollars. These dollars tend to lose value through inflation, just as do those in a bond issue. In fact, they are not as good as a bond issue which has a maturity date at which you

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can get out of the picture some day. They are also much more subject to the risk of dollar loss than a well-secured bond issue which has, in most cases, a large amount of equity junior to it and a redundancy of earnings coverage.

Regulatory Roadblocks

FROM my experience in testifying in a number of rate cases in various jurisdictions in recent years on matters relating to rate of return, I am aware of two principal roadblocks to an adequate return for utilities under today's conditions. These are: (1) original cost as a rate base, and (2) the cost-of-money approach to rate of return. Each of these alone is bad enough, but in combination, if followed to their logical conclusion, they can produce really devastating results.

Original cost had its inception about twenty-five years ago before inflation became a major economic fact of life and when, in fact, deflation seemed to be the major problem. It was encouraged by the circumstances that quite a number of utilities, controlled by certain holding company groups, had their property accounts and capital structures written up in a quite arbitrary fashion. Some of these write-ups were proportionately quite extreme. It was possible to find two electric utilities with quite similar physical aspects, such as generating capacity, transmission systems, number of customers and territories served whose properties were built at about the same time, but which had total capitalizations which were very wide apart. Under such circumstances the establishment of original cost rate bases for all companies provided a basis for equitable treatment of all. As long as the dollar fairly well maintained its value, or as long

as this value fluctuated around a central point and not in one direction only, original cost made a good deal of sense.

ALL of this is now fairly ancient history.

Utility property accounts and capital structures now very largely represent the actual number of dollars invested in the properties, although it must be admitted that these dollars are of widely differing sizes and weights. Some of them put in back in 1940 and prior had twice the value of the lightweight greenbacks of today in which revenues are now collected and rates of return are earned. Even those invested in the years just after World War II were 50 per cent more valuable than the 1960 circulating media.

It is this state of affairs which undermines the rationality of original cost as a basis for rate making. The dollar yardstick used to measure the size of the property investment has shrunk and is no longer suitable all by itself to do the job. Under such circumstances, original cost, which no one would think of applying in the evaluation of other types of property, seriously understates the value of utility



property for rate-making purposes. Under this theory the common stock equity receives weight in the rate base in an amount close to its book value. The common stock is thereby treated as a fixed-dollar investment and not as shares in an enterprise which it really is. Certainly most purchasers of such stock today would want little to do with it if it can be regarded only as another fixed-dollar investment offering no potential hedge against inflation whatsoever.

WHY do many regulatory bodies, even in jurisdictions where the law specifies fair value, still cling to original cost? Probably because it is easy to calculate, while the alternatives involve an element of judgment and the use of some degree of approximation. Evidently a wrong answer reached by an easy mechanical process is preferred to the diligent search for a reasonable approximation to the right answer. The trouble seems to be that this right answer, like so many other very important things in this world, is not likely to be ground out by the simple application of any mathematical formula.

Price indices are frequently used in reaching a reasonable approximation to reproduction cost, and they have been objected to on the ground that they represent approximations. Certainly they represent approximations, but reasonable ones. So does the Cost of Living Index, the construction of which has been criticized on occasion, but that does not prevent its being used as a basis for setting wages for hundreds of thousands of people. This being the case, is there anything particularly wrong in using other price indices to help determine reasonable wages for capital?

ONE must take with a grain of salt the words contained in the decisions in certain rate cases to the effect that original cost has been used because it truly and correctly represents the real investment in the property, while reproduction and fair value figures are approximations and guesswork. Such a viewpoint would be regarded as ridiculous in connection with any other type of property than utility property. In view of what everyone knows about what has happened to the value of the dollar, surely the people writing such opinions sense the hollowness of their contentions and the basic injustice which their enforcement entails. It took Fidel Castro to go them one better in the sphere of public utility regulation, but he is scarcely the judicial type.

It is true that the injustices perpetrated by the exclusive use of original cost in establishing a utility rate base may be offset by allowing a suitably high rate of return thereon. This is one case where it is possible for two wrongs to make a right. However, over any period of time, they are unlikely to do so. The required rate of return in such instances is likely to be so high as to be politically unpalatable and is unlikely to be allowed.

The Cost-of-money Theory

THE cost-of-money theory is an arithmetic approach to establishing the permissible rate of return on a public utility rate base. Its simple mechanical nature gives it a certain appeal to jurisdictions which seek to perform their functions with a minimum of effort and introspection. In so far as it is applied to senior capital, bonds and preferred stock, it contains some element of rationality as the

WHAT'S IN STORE FOR PUBLIC UTILITY FINANCING?



annual cost of paying interest and preferred dividends on outstanding capital can be easily determined. However, when it is applied to that part of the rate base represented by common equity, it tends to break down.

THIS is true for a number of reasons. According to this theory, the cost of equity capital is determined by the relationship of earnings to market value per share of stock, and this relationship even for a single utility tends to differ widely over a period of time. Within the course of a single decade, this so-called earnings-price ratio can vary over a very wide range, well over 50 per cent on the downside and over 100 per cent on the upside. To put it a little differently, certain stocks selling at less than ten times earnings ten years ago are selling at twice that multiple today. Which of these ratios is the right one? This issue has been avoided by taking the average over a limited number of past years. But, does a short-term average of such a widely swinging variable have much real meaning? Mathematicians would be inclined to award such an average a heavy coefficient of probable error as a means of projecting future relationships.

AN even more telling objection to the use of the earnings-price ratio in determining the proper return on equity capital is the fact that it is liable to produce quite absurd results. The stock of one utility with an excellent record of growth in earnings per share may be selling in the current buoyant market for utility stocks at 25 times earnings, producing an earnings-price ratio of 4 per cent. In the same market the stock of another utility with a flat trend of earnings per share may be selling, expopularity, at $12\frac{1}{2}$ times earnings, producing an earnings-price ratio of 8 per cent which is twice that of the first utility. Even by taking averages over a number of past years, such wide differences are not avoided. Does this mean that the return to be allowed on the common stock equity of the first company should be only half that allowed on the second? That is exactly the conclusion to which the strict application of the cost-of-money theory leads. However, if that were done, the stock of the first company would lose all its popularity and would drop like a stone in the market place. The rosy expectations on which this stock had been selling would be destroyed at a single stroke.

A very great objection, therefore, to the

PUBLIC UTILITIES FORTNIGHTLY

cost-of-money approach is that it tends to destroy any basis for optimism with respect to the future behavior of public utility stocks. Under this theory, if such a stock tends to appreciate in price as related to earnings, the rate of return allowed on equity is automatically forced down. Since the favorable behavior of the stock was no doubt based on an expectation of higher earnings, the basis of this favorable trend is destroyed.

OF course, it is not inferred for a moment that there is any obligation on the part of regulatory authorities to justify by their actions the excesses of the stock market on the upside. Likewise it is unfair that these very stock market excesses be used as a lever to depress public utility earnings. And that is just what the strict application of the cost-of-money theory tends to do.

This theory is bad enough when applied to a rate base derived from reproduction cost or fair value. Applied to the book value of equity capital based on original cost, the damage is compounded. For this theory, as it is then applied, ignores the very nature of equity investment which consists of the purchase of shares in an enterprise and not a fixed-dollar claim such as a bond or preferred stock. At the present time, the real contribution to this equity by the stockholders of a utility is not adequately represented by the dollars in the balance sheet, at least in so far as these are taken to mean current dollars. These dollars were contributed over a very long period of years. Those contributed in the years prior to 1941 were over twice as large as current dollars. Yet a return allowed on them may only be earned in the form of current dollars. To

assume that the contributors of a given number of these larger dollars should be satisfied with the same amount of dollar return as the contributors of the same number of current dollars, is to misconstrue the entire nature of equity investment and to equate it to a fixed-dollar investment.

TAKE a practical example. The common stock of a utility currently earning \$5 a share sells in today's market at \$90 a share, or 18 times earnings (earnings-price ratio 5.55 per cent). Anyone buying this stock today does so with these facts in mind and presumably with the expectation that earnings per share will increase. Ten years ago the same stock earned \$3 and sold at \$30 a share, or ten times earnings (earnings-price ratio 10 per cent). A party who invested \$90 in the stock at that time would be able to purchase three shares of stock with the expectation of earning \$9 thereon. Also, \$9 at that time had about the same purchasing power as \$11 today. It becomes quite obvious that the expectations of the former purchaser will be completely set at naught if the return on common equity is based upon a very much lower earnings-price relationship than prevailed when the stock was bought and particularly if this return is applied strictly to book value.

It seems to be a reasonable premise that two utilities alike in all respects, rendering identical services, bearing the same risks, and operating in the same regulatory jurisdiction, should be allowed to earn the same rates of return. At least that is what most fair-minded people would tend to assume. However, the application of the cost-of-money theory may produce

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quite different results in the two cases. Variations in the types of capital structures and the circumstances under which that capital, particularly the senior part of it, was raised can produce widely varying rates of return for companies which are physically identical.

FINALLY the cost-of-money theory destroys the incentive to good management which is the mainspring of our enterprise system and on which the growth and future prosperity of that system depends. If what a utility is permitted to earn is predetermined by a purely mechanical formula, wherein does the incentive to good and efficient management lie?

Any theory or natural law, if it is to maintain its validity, must stand the proof

of working under any practical tests which may be applied to it. In the world of science, a theory which fails to stand up under laboratory tests is thrown out without delay. Einstein's theory has held up so far and has helped to explain and forecast a great deal about the physical world in which we live. Exposed to the practical tests of the world of finance, the cost-of-money theory for determining utility rate of return falls down miserably on a number of important counts, as I have pointed out. It gets by at all only by using it in a very approximate fashion and by ignoring some of its ultimate conclusions.

It seems, therefore, high time that this very defective and misleading approach to rate of return be discarded.

Sugar-coated Socialism

"SOcialists are rather clever at inventing definitions of their system that will make it sound less abhorrent to American ears than Communism with its dictatorship and the rule of fear.

"Accordingly, Socialists sometimes add the words 'democratically administered' to their description of the socialist state, making it read, 'The common ownership of the means of production democratically administered.' . . .

"Of the many experiments with voluntary Communism that were tried in this country, the only ones that succeeded even temporarily were the ones that operated under an administrative head. Those that tried anything resembling a democratic administration failed promptly and miserably. . . .

"The only successful communist societies were those which, like the Oneida Community, were followers of a religious leader. So long as they followed his leadership most of them got along pretty well, but when they lost their reverence for him they fell apart. Marxian Communists, who revere nothing, have to fall back on dictatorships and the rule of terror."

—THOMAS NIXON CARVER,
Columnist.

Pay-out for Capital in the Electric Power Industry

By FRANKLIN H. COOK*



As a general rule, the large electric utilities have required large amounts of capital for growth. To attract financing, they have maintained high pay-out ratios for common stock dividends. The relation between earnings and pay-out must be watched closely. Should earnings decrease, the pay-out ratio would increase were a company to maintain the same dividend payment. This would not be a desirable situation. Also any increase in pay-out without a similar increase in earnings would not be beneficial to the shareholder. A company whose pay-out ratio has decreased through greater earnings is unquestionably a good investment.

WHEN a security is bought for safety and income the investor expects it to yield an income. Generally, the bonds, preferred stock, and common stock of electric power companies fall into this category.

The payment of interest or dividends has a dual aspect. To the utility the outlay represents a cost that must be paid to attract capital; to the investor it should be a yield comparable to similar securities in the market. Cost to the utility can be measured as a percentage of the capital

structure, such as an overall rate of 6.19 per cent¹; it might be gauged as a percentage of operating revenue, thus comparing capital costs to sums allocated for depreciation and particular expenses such as taxes; or it might reflect the size of the pay-out ratio necessary to maintain a desired return to the investor in the common stock market. The subsequent pages examine the last two criteria: "cost of capital" as a percentage of operating revenue, and the pay-out ratio as a factor in the attraction of the investor.

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¹ *City of Pittsburgh v. Pennsylvania Pub. Utility Commission* (Pa Super Ct 1956) 16 PUR3d 319, 126 A2d 777, 778.

PAY-OUT FOR CAPITAL IN THE ELECTRIC POWER INDUSTRY

Distribution of Net Operating Revenue

WHEN the distribution of earnings is contemplated for a nonutility enterprise, the earnings consist of the profits, which represent a sum available for payment to preferred stockholders or common stockholders as dividends, and the relegation of any balance into earned surplus. However, for a regulated utility there is one other important distribution below the line; that is, interest on long-term debt. To the nonutility concern interest pay-out is an expense item; but regulatory commissions take a broad view in ascertaining the cost of capital and so for their purposes interest expense and dividends to the shareholders are placed in the same category.

In obtaining capital from long-term debt, preferred stock, or common stock, every management faces problems: First, should the fixed pay-out obligations of long-term debt or preferred stock be used in the financial structure? Secondly, how much of the earnings should be paid out to the common stockholders? The latter question is present in every corporation, for common stock is prevalent among all. If the decision is made to use long-term debt or preferred stock, the further problems arise as to how much and in what combinations.

Pay-out on Fixed Obligations

FOR class A and class B electric companies in the United States Table I, this page, shows that the percentage of every dollar of operating revenue paid out in interest and preferred dividends has dropped approximately 50 per cent between 1940 and 1955. For every dollar of operating revenue interest payments for class A and class B electric companies in 1939 represented 12.1 cents; preferred dividends, 5.5 cents; in 1957 the corresponding payments were 6.3 cents and 2.1 cents, respectively.

Interest Expense

GENERATING companies requiring capital have relied upon interest-bearing obligations in the past, Chart A, page 812. The hydro concern with the greatest debt quantitatively among the three types of companies² has the highest interest responsibilities as a percentage of operating revenue. But note that in the capital expansion period since 1948 the purchasing concerns have also come into the debt

² Ascertained by multiplying plant investment, "Capital Needs of Electric Power," by Franklin H. Cook, PUBLIC UTILITIES FORTNIGHTLY, December 4, 1958, Vol. 62, No. 12, pp. 929-943, 931, Chart A by ratio of long-term debt to total assets, "Cost of Capital and the Capital Structure of Electric Companies," by Franklin H. Cook, PUBLIC UTILITIES FORTNIGHTLY, June 4, 1959, Vol. 63, No. 12, pp. 820-838, 824, Chart A.



TABLE I
INTEREST AND PREFERRED DIVIDENDS PAID AS A
PERCENTAGE OF OPERATING REVENUE
Class A and Class B Electric Utilities in the United States
(Averages)

	1940	1945	1950	1955
Interest Expense	11.1%	6.6%	5.4%	6.0%
Preferred Dividends	5.1	3.5	2.3	2.1

Source, Federal Power Commission, "Statistics of Electric Utilities in the United States," 1940, 1945, 1950, 1955.

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market for funds. The percentage of operating revenue paid out in interest has been declining for both the steam and hydro utilities. However, the number of times bond interest has been earned has been increasing, with the steam enterprises showing a better record, rising from 2.8 times in 1939 to 4 times in 1957; hydro companies moved from 2.6 times to 3.6 times between the same dates.

ORDINARILY, among the three types of utilities, the large concern pays out a

greater percentage of operating revenue in interest than does the small enterprise, Charts 1, 2, and 3, page 813, even though these same big utilities have a greater number of times bond interest earned³ and a larger proportion of bonds in their capital structure.⁴

³ "Are Earnings Decreasing in the Electric Power Industry?" by Franklin H. Cook, *PUBLIC UTILITIES FORTNIGHTLY*, May 26, 1960, Vol. 65, No. 11, pp. 721-730, 727, Charts 7, 8, and 9.

⁴ "Cost of Capital and the Capital Structure," by Franklin H. Cook, loc. cit. Charts 1, 2, and 3, pp. 824, 825.

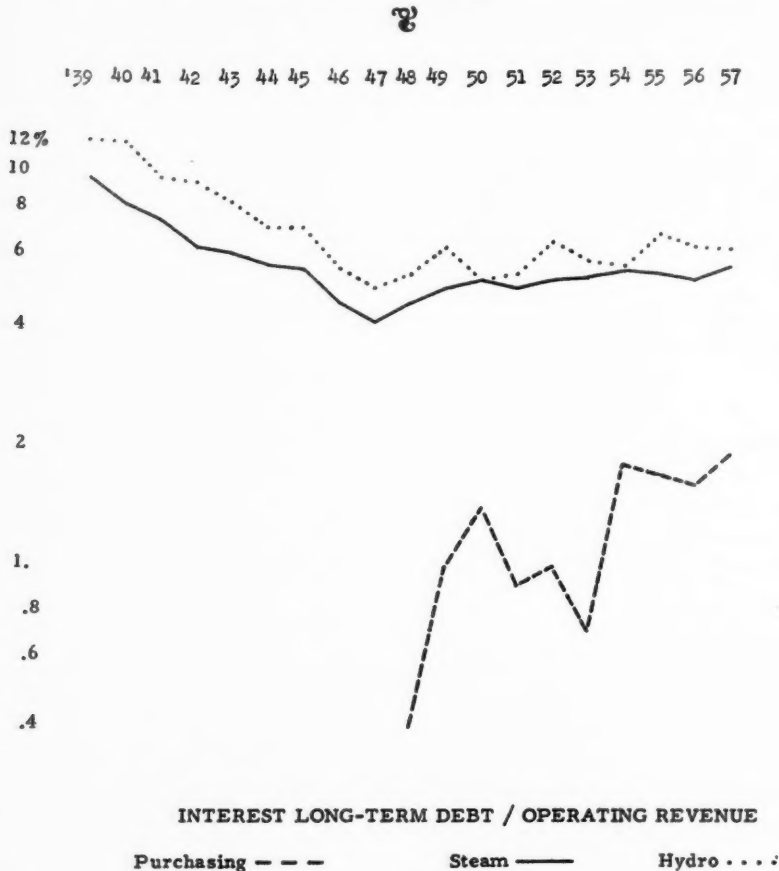
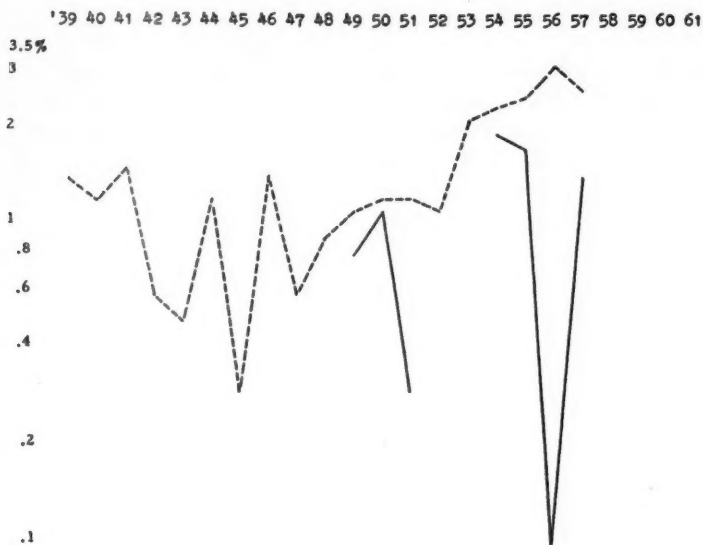


CHART A

PAY-OUT FOR CAPITAL IN THE ELECTRIC POWER INDUSTRY

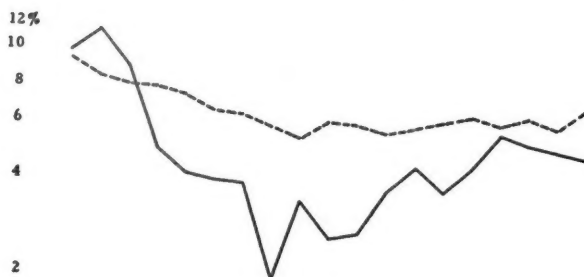


INTEREST ON LONG-TERM DEBT TO OPERATING REVENUE - PURCHASING

Small —

CHART 1

Large ----

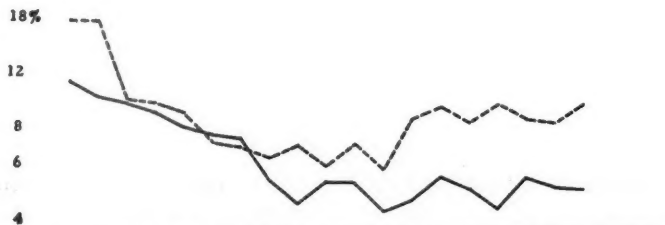


INTEREST ON LONG-TERM DEBT TO OPERATING REVENUE - STEAM

Small —

CHART 2

Large ----



INTEREST ON LONG-TERM DEBT TO OPERATING REVENUE - HYDRO

Small —

CHART 3

Large ----

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Preferred Dividends

THE previously noted increase in earnings in terms of times bond interest earned is carried down to preferred dividends. In 1942 class A and class B privately owned electric companies in the United States earned their preferred dividends 3.8 times; in 1957, 8.3 times.⁵ Charts B (this page), 4, and 5 (page 815) demonstrate that both large companies for the steam and hydro groups have been paying preferred dividends; the hydro concern to a greater degree than the large steam utility. A rule of thumb used by financial experts requires that preferred dividends should be earned twice after depreciation and before income taxes. There is no doubt that the present

⁵ Federal Power Commission, "Statistics of Electric Utilities in the United States," 1942, 1957.

median purchasing, steam, and hydro companies meet this requirement with ease, Table II, page 816.

Generally between 1939 and 1957 among the purchasing utilities only the large purchasing company had obligations for interest on long-term debt, Chart 1. The generating concerns, steam and hydro, trading on the equity have sizable interest obligations, particularly the large enterprises, Charts 2 and 3. Likewise, it is chiefly the large hydro and steam companies that continue to exploit preferred stock as a source of funds, and thus have dividends on preferred stock to pay out ahead of dividends on common stock, Charts 4 and 5.

Pay-out on Common Stock

THE important factors in buying a common stock are safety, income,



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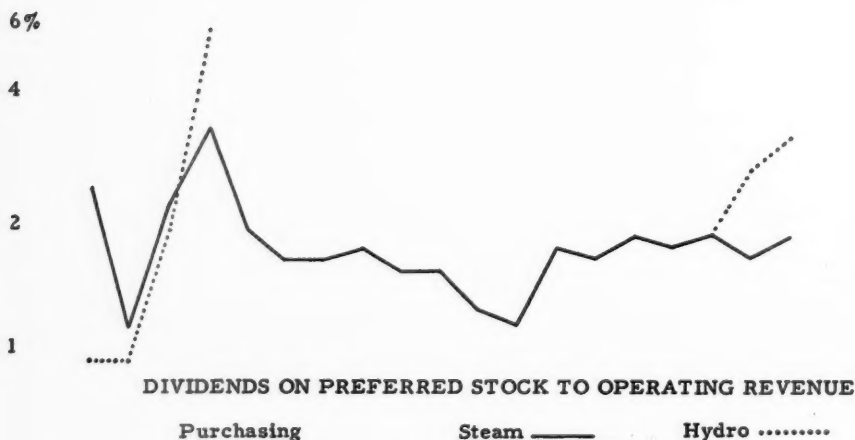


CHART B

PAY-OUT FOR CAPITAL IN THE ELECTRIC POWER INDUSTRY

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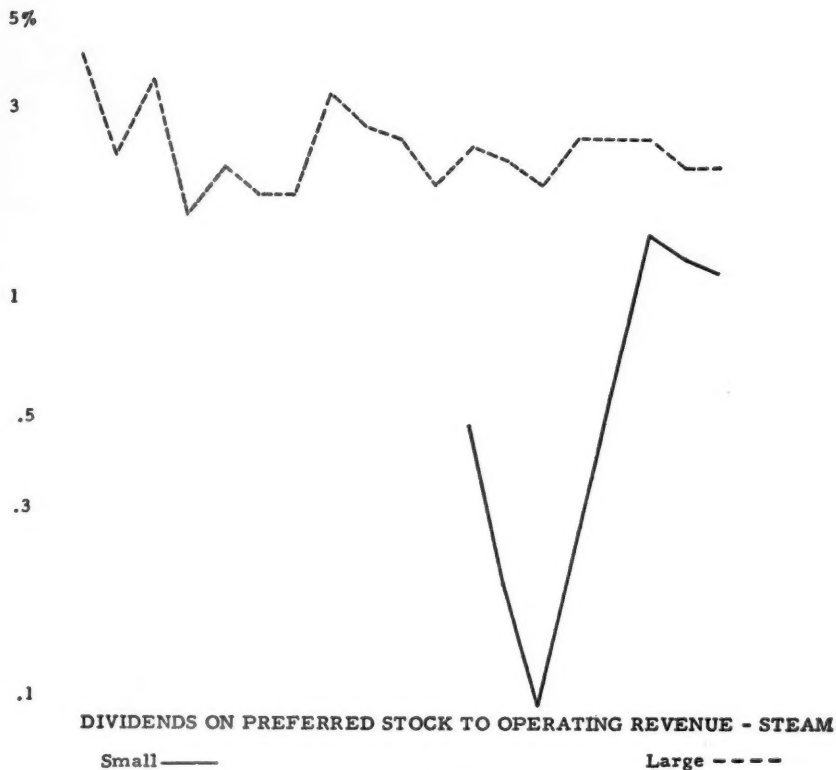


CHART 4

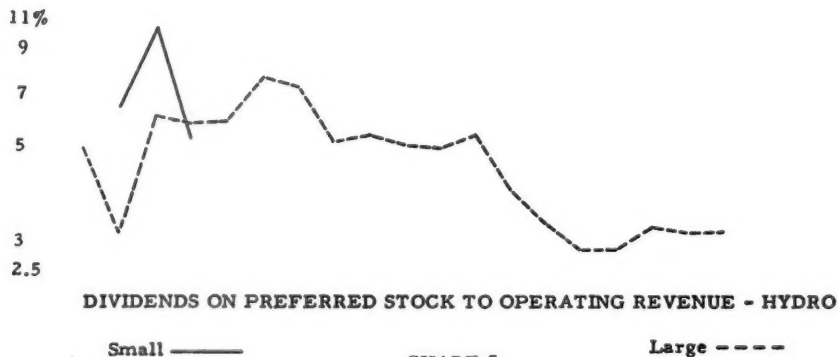


CHART 5

PUBLIC UTILITIES FORTNIGHTLY

and appreciation. The electric power common stocks rate high in the first two areas, but weak in the last. Public utility stocks fare better on a declining market and do not rise as much as other stocks in a rising market. Generally, in addition to earnings, common stock in the electric power field is supposed to react to the pay-out of dividends. However, not all companies pay out their earnings in dividends so the problem possesses two aspects:

Should any pay-out be made? If so, how much?

Why Pay-out

IN accord with some writers a company may follow a high pay-out policy for one of three reasons, or mixed motives. First, to attract capital, by pushing up the market price or by maintaining a ready sale to institutional investors. Secondly, to sustain the price for regulatory pur-



TABLE II

COMMON SIZE OPERATING STATEMENT, 1957, ELECTRIC UTILITIES, TYPE AND SIZE (Medians)

Type	1957	Purchasing	Steam	Hydro
Operating Expenses		69.0%	45.0%	41.3%
Depreciation	6.4	10.3	10.6	11.2
Federal Taxes	6.4	10.6	11.2	9.2
Other Taxes	5.8	8.3	21.5	
Net Operating Revenue	11.5	22.4		
Distribution of Net Operating Revenue:				
Interest, Long-term Debt	1.9	5.5	6.2	
Dividends, Preferred Stock		1.8	3.2	
Dividends, Common Stock	5.0	10.6	10.7	
To Earned Surplus (Net Operating Revenue Less Interest and Pfd. Dividends)	4.6	4.5	1.4	

Size	Small	Purchasing Medium	Large
Operating Expenses	67.1%	70.1%	66.0%
Depreciation	6.8	6.3	5.2
Federal Taxes	7.0	6.2	5.4
Other Taxes	4.8	6.0	7.7
Net Operating Revenue	12.6	10.9	11.3
Distribution of Net Operating Revenue:			
Interest	1.4	1.2	2.6
Dividends, Preferred			
Dividends, Common	1.5	5.7	8.2
To Earned Surplus (NOR Less Int. and Pfd. Dividends)	9.7	4.0	.5

	Steam			Hydro		
	Small	Medium	Large	Small	Medium	Large
Operating Exp.	50.6%	42.1%	43.3%	46.4%	43.1%	37.8%
Depreciation	10.4	9.9	10.1	9.8	12.8	10.5
Federal Taxes	9.6	10.8	11.0	16.6	14.7	10.1
Other Taxes	8.1	9.2	7.9	9.8	8.1	10.4
Net Opr. Revenue	19.4	22.5	23.0	17.2	21.0	29.0
Distribution of Net Operating Revenue:						
Interest	4.4	5.6	6.3	6.2	2.6	9.7
Dividends, Preferred	1.2	1.7	2.2			3.2
Dividends, Common	8.2	11.4	11.7	12.2	6.0	11.5
To Earned Surplus (NOR Less Int. and Pfd. Divnd.)	5.6	3.8	2.8	(1.2)	12.2	7.8

Source, Federal Power Commission, "Statistics of Electric Utilities in the United States, 1957."

PAY-OUT FOR CAPITAL IN THE ELECTRIC POWER INDUSTRY

poses. Lastly, if there is no need for new capital within the foreseeable future, earnings are distributed to stockholders.

To the investor dividends seem to be more important than earnings.⁶ Under recent stock market prices an investor valued a dollar retained as one-third of a dollar received in dividends.⁷ An increasing dividend on common stock exerts upward pressure on the price of that security. For example, the capital struc-

ture of the median medium steam company for 1955 contains \$25 million in common stock. A dividend payment of 5 per cent on \$25 million would be \$1,250,000.

However, the company actually pays out \$3,080,000, which would give the common stock a market value of approximately \$61.6 million—using a 5 per cent return. (The book value is \$37,320,000.) Through use of stock warrants a company that has boosted the market value of its common shares to this degree can issue new shares substantially above par, or be in a position to bargain advantageously for additional fixed obligation capital.

⁶ "Cost of Capital in Public Utilities," by L. W. Thatcher, *Land Economics*, May, 1954, 30: 85-111, p. 93.

⁷ "Capital Cost and Fair Return," Part III, by J. Rhoads Foster, *PUBLIC UTILITIES FORTNIGHTLY*, April 1, 1954, Vol. 53, No. 7, pp. 421, 430.



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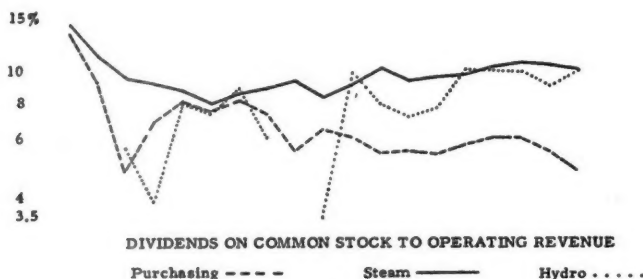


CHART C

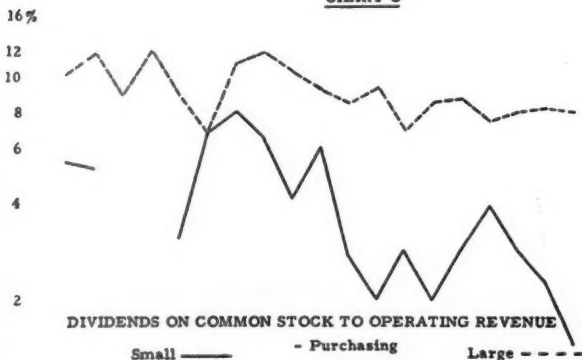


CHART 6

PUBLIC UTILITIES FORTNIGHTLY

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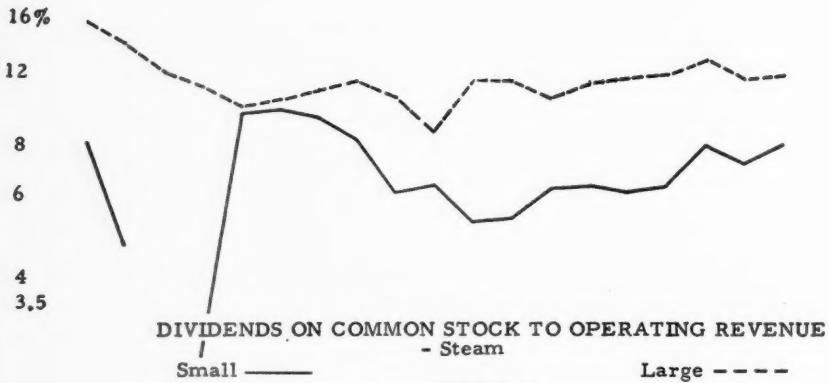


CHART 7

'39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61

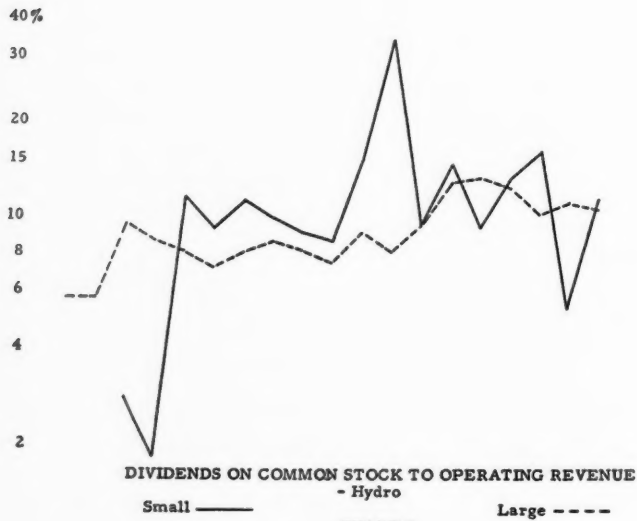


CHART 8

PAY-OUT FOR CAPITAL IN THE ELECTRIC POWER INDUSTRY

ALTHOUGH earnings tend to establish a bottom to the market price of stock, a ready market for the stock among institutional investors can be retained by maintaining constant dividends, such as the former \$9 annual rate of American Telephone and Telegraph Company. Thus, a company may decide to pay a steady rate, without any constant increase, preferring to let the stock rise in price as the book value increases.

The generating company, particularly the steam utility, has been faced with the foregoing problem of attracting new capital, and has made use of the large pay-out to its advantage in securing equity funds. In some areas of the country even the purchasing type of electric power company that has no great need for new capital may follow a policy of high pay-out in order to maintain the value of its securities at a level above that required by local regulatory authorities. For example, a New England commission will show more respect to a company that has been able to stabilize the price of its common stock above par value than one that has not.

LASTLY, a purchasing concern, or small hydro utility operated as a captive plant, with no foreseeable need of new capital, may pay out large percentages of earnings to the stockholders who desire immediate income, rather than the accumulation of funds in an earned surplus account for future needs.

Not all companies follow a high pay-out policy. There are theoretical arguments against paying out earnings in dividends. (1) Earnings should be accumulated as a source of internal funds for capital expansion, or (2) earnings should be used

to increase book value, which will enhance the credit position.

Dr. Fred P. Morrissey does not agree with a liberal pay-out formula for the electric power industry, particularly when new capital is required. From 1950 to 1954 the electric power industry paid out \$3 billion in common dividends, and at the same time raised \$2 billion in new common stock. Between 1945 and 1954 \$3,855,000,000 were paid in dividends, but half of it was received back in subscriptions. Instead of paying cash dividends at high tax rates, the utility should either accumulate its earnings in earned surplus, or issue share dividends which are taxable to the holder as capital gain.⁸

DR. CLEMENS⁹ and Dr. Thatcher make a very persuasive case for the price-dividend ratio as significant in determining the price of a public utility stock. Dr. Morrissey¹⁰ by use of trend charts supplements their findings by showing that earnings are also important in fixing the value of common stocks. Companies with high pay-out ratios show little appreciation on stocks, but high yields. Whereas, companies with low pay-out ratios show great appreciation in the market value, though low yields.

Dr. Morrissey concludes that a high pay-out ratio impairs both book value and market value. Thus, for refunding

⁸ "Dividend Policy and Reduction of Tax Liability," by Fred P. Morrissey, *PUBLIC UTILITIES FORTNIGHTLY*, January 3, 1957, Vol. 59, No. 1, pp. 15, 22.

⁹ "Some Aspects of the Rate of Return Problems," by E. W. Clemens, *Land Economics*, February, 1954, 30:32-43.

¹⁰ "Dividend Payout and Utility Common Stock Value," by Fred P. Morrissey, *PUBLIC UTILITIES FORTNIGHTLY*, May 26, 1955, Vol. 55, No. 11, pp. 583, 594.

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or new capital purposes, a low pay-out ratio would enhance the credit position by a greater book value on the common shares, a greater proportion of total capital represented by net worth; and more security behind any long-term debt, present or future.

How Great Pay-out?

BETWEEN 1939 and 1957 the high percentage of operating revenue paid out by the steam companies as common dividends in comparison with the purchasing and hydro utilities, Chart C, page

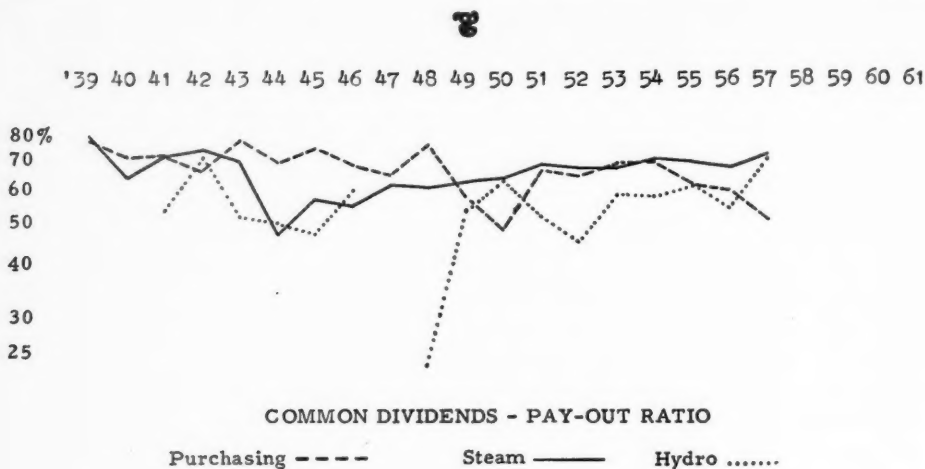
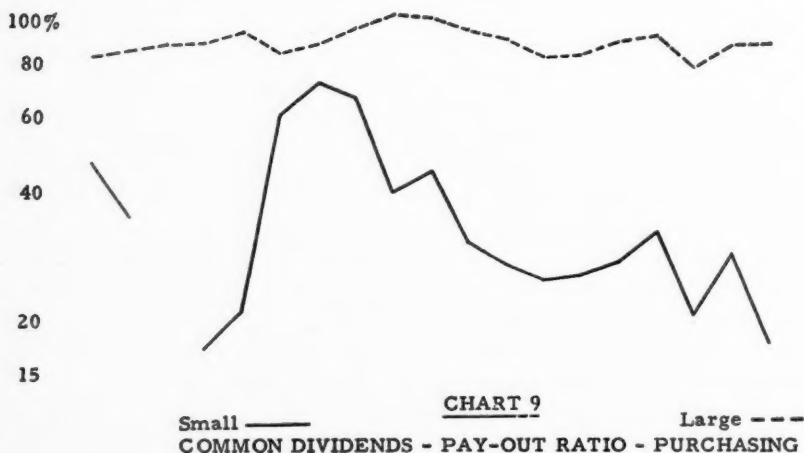


CHART D

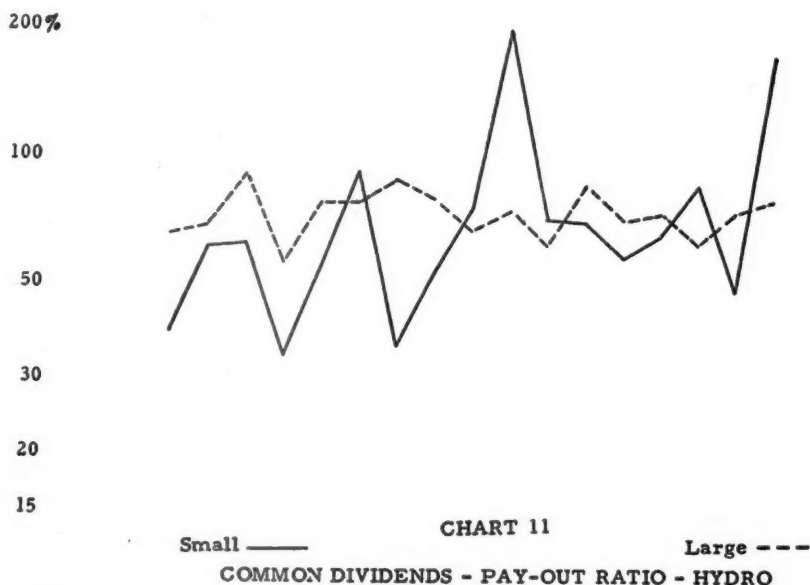
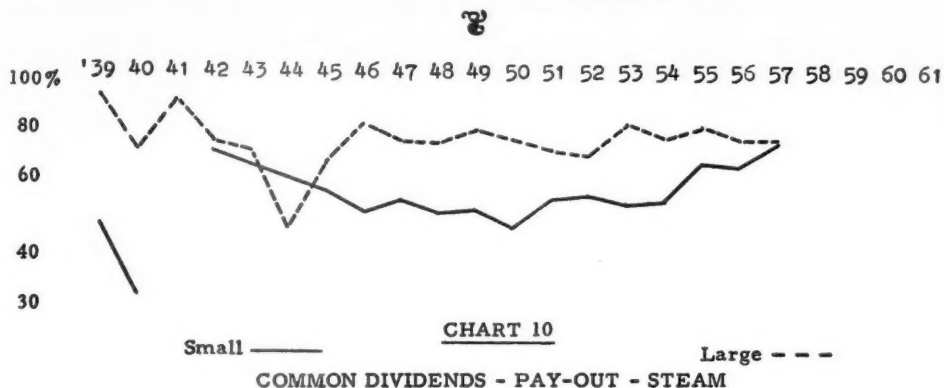


PAY-OUT FOR CAPITAL IN THE ELECTRIC POWER INDUSTRY

817, and specifically by the large purchasing and large steam concerns contrasted with the small enterprises of these types, Charts 6, 7, and 8, pages 817 and 818, could be a function of a greater amount of common stock outstanding or a high pay-out ratio or both. In studying Charts 7, 8, and 9 in the preceding article "Cost of

Capital and the Capital Structure of Electric Companies," showing percentage of total assets represented by common stock, only the large purchasing company appears to have a preponderance over the small concerns of that type.¹¹ Whereas,

¹¹ Loc. cit. pp. 827, 830.



PUBLIC UTILITIES FORTNIGHTLY

Charts D, 9, 10, and 11, pages 820 and 821, demonstrate that there is no conclusive evidence that one type of electric company has a higher pay-out ratio than another, but that the large purchasing and large steam enterprises—contrasted with the small utilities of these two groups, follow a policy of paying out a greater percentage of their earnings in dividends.

Thus, the great portion of operating revenue paid out on common dividends by the steam companies, and particularly the large steam enterprises, seems to be attributed to a policy of supporting a high dividend pay-out ratio in relation to earnings; however, the large purchasing concern appears to pay out a large proportion of its operating revenue in common dividends not only because it maintains a high pay-out relative to earnings, but also because it has a greater amount of common stock in the capital structure than do the small utilities of the same type.

THE nature of the earnings-dividends controversy has been indicated. The instant presentation is not intended to lend weight to either position for it does not include any price relationships of common stock to either earnings or dividends, but the historical charts from 1939 to 1957 do show that the pay-out policies of the companies have differed through the years and are peculiar to certain sizes and types of corporations.

Significance

THE companies that have needed capital to grow¹² have used the financial structure of bonds, preferred stock, and

¹² "Cost of Capital and the Capital Structure," by Franklin H. Cook, loc. cit. p. 837.

common stock. In the main, these are the large companies, and, consequently, their economies of production are diminished by greater percentages of operating revenue payments for interest, and common and preferred dividends. To attract capital these companies have high pay-out ratios for common dividends. These large concerns are located in the mature economy of the East, and the growth areas of the California and Gulf coasts. Undoubtedly, some of the prices of the common stock are based upon yield plus psychological factors of growth; others may have their market price almost wholly sustained by the pay-out ratio that equates the return for the security with that of investments made for safety and income.

The pay-out ratio is a function of the dividends paid divided by the earnings. A decrease in earnings would increase the pay-out ratio if a company attempts to maintain the same rate of dividend payment. Such an increase in the ratio would not be healthy, but a warning to the investor. On the other hand, an increase in pay-out without a corresponding increase in earnings is not per se beneficial to the shareholder; it should be examined in the light of the company's future earnings and need for additional capital.

FINALLY, a company whose pay-out ratio has decreased through greater earnings is prima facie a good investment, for either its stock will increase in book value, or, if it resumes its former dividend pay-out ratio, the quantitative dividend received will increase, thus tending to raise the price of the security on the market.

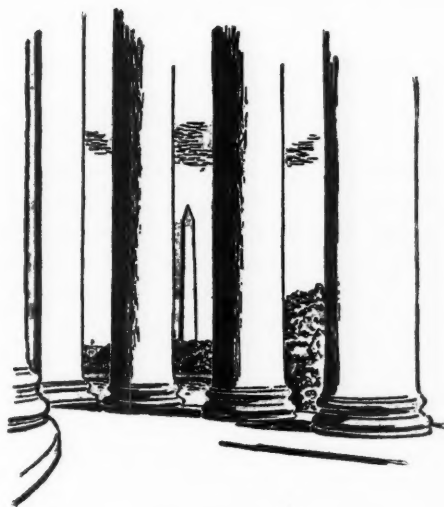
Washington and the Utilities

FPC Gas Area Pricing?

ALTHOUGH the natural gas industry has in the past split at least three ways on the question of Federal Power Commission control of independent producer rates, there seems to be considerable agreement that the commission took a step in the right direction when it laid down its General Policy No. 61-1 on September 28, 1960. This was the statement of commission policy which established a series of geographical standards on natural gas prices whereby the reasonableness of producer rates might be determined on an area price basis.

Admittedly, the commission's policy at least raises a question of possible conflict with the decision of the U. S. circuit court of appeals for the District of Columbia, handed down December 15, 1955, and subsequently confirmed by denial of certiorari on the part of the U. S. Supreme Court. In this 1955 decision, *City of Detroit v. Federal Power Commission*, 11 PUR3d 113, the commission was ordered to use a cost basis, at least as a point of departure, in fixing any rates under the Natural Gas Act.

It will be recalled that the commission,



in its general policy statement, pointed out that the conventional case-by-case cost base approach was responsible for the terrific backlog of more than 3,000 producer rate cases against which the commission has been losing ground in recent years and could not catch up with, even with a tripled competent staff, for approximately eight decades. The commission apparently felt that this state of affairs justified a studied departure from the implications of the court decision in the Detroit case requiring a cost base finding as a prerequisite to every producer rate case determination.

But while practically all segments of the gas industry hailed the commission's action as an effort to reach a practical and workable solution to a very difficult problem of regulatory administration, there has been noted a certain amount of doubt that the commission's "short cut," as it has been called in some quarters, will ultimately prevail.

Three Lodges of Doubting Thomases

THE doubting Thomases seem to fall into three groups: The first and more

PUBLIC UTILITIES FORTNIGHTLY

obvious are worried about what will happen to the commission's policy statement on appeal, in view of the seeming conflict with the court view in the Detroit case. Secondly, there has been some doubt expressed about whether the commission itself will persevere in its determination to carry out the area price policy, if the composition of the commission is greatly changed by future appointments. The policy statement was signed by Chairman Kuykendall and Commissioners Stueck and Kline.

True, there was no dissent. Commissioner Sweeney, serving on a recess appointment, was too new on the job to participate and there is still a vacancy.

This brings up the consideration that the new Kennedy administration will have two and possibly more vacancies to fill on the FPC before mid-1961. Such appointments could conceivably change the viewpoint of the commission majority. While the position of President-elect Kennedy has never been spelled out in this particular area, his views as expressed during the campaign are regarded as "predominantly consumer minded," whatever that is.

DOUBTING Thomas Lodge No. 3 is represented by consumer-minded distributors themselves. J. Theodore Wolfe, president of the Baltimore Gas & Electric Company, addressing the recent convention of the Independent Petroleum Association of America in Dallas, Texas, October 25th, appeared concerned over the ability of any regulatory authority to hold the line against consistent increases in the cost of gas supply to the pipelines. These increases have in the past, of course, been passed along to distributing utilities which have had no other choice except to ask for increased rates for service to the ultimate consumer.

IT was W. J. Goldston, Houston independent and president of the Mid-Continent Oil & Gas Association, who told the Dallas meeting of the IPAA that congressional legislation was still the only sure remedy for extricating the producers from the regulatory quagmire into which they were plunged by the U. S. Supreme Court decision in the Phillips case in 1954. Goldston gave the FPC an "A" for effort and called the new area price policy a step in the right direction because it recognized that natural gas producers are not utilities and cannot be regulated on a cost-of-service basis. Goldston pointed out that a decision by three members of the commission, however well intentioned, is still very much subject to change.

At the same meeting W. M. Elmer, president of Texas Gas Transmission Company, raised the question of possible court reversal or, in any event, the long delay which would be required by test litigation before the gas industry can even be sure that the FPC area price ruling will stick.

REGARDLESS of these doubts, however, more disinterested observers—especially in the light of the recent national election results—do not feel that there is much hope for substantial legislative change by the new Congress along the lines of the vetoed Harris Bill or earlier legislation to exempt producers from full FPC controls. And so while the oil and gas men may well persuade each other at industry meetings that such legislation is needed and necessary, a realistic appraisal of the climate which will prevail in Washington beginning next year does not augur well for such statutory developments. That being the case, there is considerable sentiment in the industry for working with the FPC policy statement as the only reasonable alternative.

WASHINGTON AND THE UTILITIES

Testing the Area Price Ruling

BECAUSE it was a general policy statement, however, and not a ruling in any particular gas producer rate case, the FPC's recent views on area pricing cannot be automatically appealed. It will be necessary for some gas producer or other party to experience the application of the policy—or even a refusal to apply the policy—in a particular case before such an appeal can be taken. That means that some valuable time may elapse before a test case can be devised.

Two medium-sized producers, Jake L. Hammon and Syljo Gas Company, have been the subject of recent FPC rulings which might make them candidates for taking up test appeals to the federal courts.

In the Hammon case the commission rejected a proposed rate case settlement offer on ground that it did not fall within the area price range of General Policy No. 61-1. In the Syljo Gas Company case, a proposed rate was condemned on ground that it exceeded the area price standard outlined in 61-1. Either case might be appealed, but test litigation is an expensive pastime for the parties involved. The prospects may not be rewarding enough to persuade such producers to make the necessary investment of time and money.

No Area Price for CATCO

THE commission itself threw out another interesting potential candidate which would unquestionably have the necessary resources for test litigation when it refused to apply its General Policy No. 61-1 to the pending Catco case.

The Catco case is now before the commission on remand from the U. S. Supreme Court. Hearings commenced last March 15th and have been held in-

termittently since that time to permit the producers to present evidence to support their proposed initial price of 21.4 cents per thousand cubic feet, in accordance with the Supreme Court's ruling. The Supreme Court, in setting aside the FPC's order authorizing the sales at the 21.4-cent level, held that the initial price must be supported by substantial evidence to establish that it is required by the public convenience and necessity and is in the public interest.

The Catco companies already have presented evidence at the reopened hearings, and cross-examination was concluded last July 1st. The case is now at the point where other parties may introduce testimony and evidence to rebut the evidence of record.

The commission's area policy statement was issued September 28th and amended October 25th. The FPC said that some confusion had arisen among the parties to the Catco case on the applicability of the policy statement. It indicated that at this stage in the proceedings, nothing more would be material or relevant, other than rebuttal to what the applicants presented.

THE commission added that if any cross-examination of the rebuttal testimony is necessary, the applicants at that time could petition the FPC for permission to introduce additional evidence relating to the policy statement. The commission reminded the parties, however, that the case is on remand for further proceedings in conformity with the U. S. Supreme Court's opinion. The applicants have the burden of introducing sufficient evidence to support a finding of public convenience and necessity at the proposed price, the FPC indicated, and any rebuttal evidence must be directed to that.

Cheaper Atomic Power Through Low-cost Uranium?

THE Atomic Energy Commission may soon open the way for the production of uranium suitable for nuclear power production under low-cost methods recently discovered in West Germany. A uranium industry spokesman on October 27th said the AEC was ready to grant clearance to qualified companies for production of fissionable materials by a new, cheap process. Gordon Weller, an official of the American Uranium Institute, quoted an AEC commissioner as saying that clearances would be granted to companies able to demonstrate "the capability for proper utilization of the process."

Weller, of Grand Junction, Colorado, said he got this assurance from Commissioner Robert Wilson. The process involved is the gas centrifuge method, reported to be much less expensive than current production of U 235 by the gaseous diffusion method. Weller said the institute was concerned that the AEC might "burden" the cheap process with such heavy secrecy that it could not be developed for commercial use.

A recent announcement that the West Germans were conducting research in the process led to speculation that numerous countries might be able to use the centrifuge method to produce fissionable materials. These materials could be used in nuclear weapons as well as in power reactors.

Weller said Commissioner Wilson told him AEC wanted to assure itself that release of such information for commercial purposes would pose no threat to national security by spreading to nonnuclear countries.

Congress May Split AEC Setup

THE Senate-House Joint Committee on Atomic Energy is reported to be considering a change in the present Atomic Energy Commission so as to separate its present promotional and regulatory functions. An AEC organization study, under Commissioner Loren K. Olson, is also pondering the same division in activities. Meanwhile, the U. S. Supreme Court is soon slated to rule on whether it will review a U. S. circuit court of appeals order blocking AEC's approval of a construction certificate for a big power reactor 30 miles from Detroit, the Enrico Fermi plant being built by Power Reactor Development Company.

As a result of such studies, a task force of the Joint Committee may urge a change in the Atomic Energy Act. There are a number of plans for separating regulation and promotion responsibilities. The committee considered this question back in 1957 and decided to leave the AEC as it is for the present. Yet separation of powers has continued to be mentioned in annual hearings for some years. Senator Anderson (Democrat, New Mexico) in 1956 thought about asking Congress to divide the AEC into two parts but finally decided to defer the matter by setting up a group to look into the breakup.

Splitting up AEC has been recommended by the National Advisory Committee on Radiation of the Public Health Service and by former Commissioner John Floberg. The appeals court ruling on the PRDC reactor has been construed by some as pointing to separation. The appellate court ruled that AEC should not have licensed the construction of the \$45 million project.

Telephone and Telegraph

Facsimile Mail Test

THE Post Office Department has begun testing a facsimile mail process that could have considerable implication for the communications industry. For the moment at least the system is limited to government use between Washington, Chicago, and Battle Creek, Michigan.

Following the initiation of the test, H. L. Hageman, president of the Western Union division of the AFL-CIO Commercial Telegraphers Union, pointed out what he believes to be the inherent dangers of such a system. He called upon the Senate Post Office Committee to investigate the impact of the electronic process on the industry.

In a letter to Committee Chairman Olin D. Johnston (Democrat, South Carolina), Mr. Hageman stated that the facsimile system was a "socialistic scheme" to compete with and destroy the private telegraph industry. The union leader asserted that "instead of trying to figure out ways of competing and putting the private telegraph companies out of business, why doesn't Mr. Summerfield (the Postmaster General of the United States) spend his time trying to improve the postal system so that a letter can be delivered from one section of a metropolitan area to another in something less than two or three days?" It is the



union's position that a facsimile mail service would endanger the jobs of some 35,000 employees.

At the initiation of the new process, Postmaster Summerfield stated that he was hopeful that the system could be extended to public use at some future unspecified date. As part of the ceremonies a letter was sent by the Postmaster to President Eisenhower thanking him for his "enthusiastic endorsement" of the project.

THE new system destroys the original letter as soon as it has been transmitted. At the receiving end the facsimile of the original letter is sealed and thus complete sanctity of the mail is maintained. Considerable concern had been expressed regarding the "sanctity" of the mail when the facsimile system was first investigated.

A writer uses a one-page combination letter and envelope similar to the World War II V-mail or the presently used air letter which enables correspondents to write to any foreign country for a blanket ten-cent postage charge. This combination letter-envelope is fed into a machine which opens the letter and flashes a duplicate to the receiving point. The sending of such a letter takes about four seconds. The Postmaster General indicated that

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the cost of transmitting has not been determined but that such costs would be worked out through the present test.

Postal engineers have suggested a nation-wide network of speed mail facilities that would link 71 post offices at strategic points in the nation. Facsimile transmission by microwave was first tested by the Post Office Department about a year ago.

Pay TV Hearings Completed

THE Federal Communications Commission has completed hearings on pay TV plans submitted by RKO General and Zenith Radio Corporation. Zenith and RKO are sponsoring a \$10 million project which proposes to begin transmission of programs in the Hartford, Connecticut, area.

Up to this time the commission has been unwilling to approve any long-range plan for broadcast pay TV. Part of the reluctance of the commission to approve such schemes probably comes from congressional pressure. It is well known that members of Congress have been besieged, at various times, with letters protesting the initiation of pay TV.

Various cable transmission schemes, using telephone-type lines, have been tested. However, these do not require commission approval since they are closed circuit and not broadcast over the air.

If the Hartford plan is approved the viewers would have to spend at least 75 cents per week to keep the service but an RKO witness was unable to state if this would be in the form of a rental or a minimum charge. The RKO witness further stated that there would be a maximum of 50,000 subscribers in the Hartford area during the three-year projected test. Additional charges for the service

would range from 25 cents to \$3.50 per program and initial installation of the receiving unit would range from \$7.50 to \$10.

THE chief opposition to this test of scrambled over-the-air transmission has come from movie theater owners. The theater owners raised the question as to where suitable films for the test could be obtained and a spokesman for the group stated "you have got to have more than pie in the sky" promises before such a system can be started. Backers of the scheme stated, however, that negotiations for the films were under way, but no definite commitments had been made.

The commission is faced with volumes of testimony and most observers agree that a final ruling on this controversial matter will not be forthcoming before the end of the year.

RCA Installing Microwave System

A 142-MILE microwave system spanning a mountainous region of northwestern Idaho is being installed by the Radio Corporation of America. This system is part of a planned statewide network to serve all agencies which require point-to-point communications. Circuits will be included for civil defense, law enforcement, highway maintenance, and forestry.

The microwave system will extend south from Coeur d'Alene in Idaho's northwestern corner to Cottonwood Butte, with a leg running westward off the main "backbone" to Lewiston. The 142-mile chain will employ six tower relay and terminal stations with transmission signals beamed to Lewiston by means of a reflector unit. When completed the system will be the second RCA micro-

TELEPHONE AND TELEGRAPH

wave link in Idaho. A 13-mile system already connects Boise and Flat Butte near Jerome in the southern portion of the state.

The RCA microwave equipment will provide a basic capacity of 24 channels, divided among the principal users. In effect, this will provide a separate communications system for each user. A state policeman, for example, will be able to contact from his roving patrol car the nearest headquarters over a channel set aside for law enforcement traffic only. The overall system will have an ultimate capacity of up to 96 channels should they be required. The flexibility of the microwave units will permit the addition of teletype, facsimile, and other transmission forms as the need may arise.

Philco Calls for UN Space Regulation

JAMES M. SKINNER, JR., president of the Philco Corporation, has called for the adoption of a system by which international space communications would be provided and operated by the United Nations. He made this idea known to the Peninsula Manufacturers Association, meeting in Palo Alto, California.

Technical capability will soon exist which will establish an entirely new and economical way of providing all kinds of communications between all the countries of the world, he stated. In relation to future technical developments, Mr. Skinner announced a \$5 million expansion program for the company's Western Development Laboratories where the Courier satellite was developed and built.

Mr. Skinner believes that the United States now has the opportunity of providing a convincing demonstration of its intention to use its technical achievements in space for peaceful purposes. He sug-

gests that it would be a major asset in the court of world opinion if the United States could demonstrate our peaceful motives and develop a service which would be useful to the entire world.

It seems essential to Mr. Skinner that these satellites be under the control of some world body. He believes that worries and possible misunderstandings could be avoided by having the UN responsible for such satellites.

Western Union Establishes Government Offices

ESTABLISHMENT of field offices at six key locations in the United States to handle communications needs and liaison activities of major government and military communications projects has been announced by Western Union. The new offices have been opened at Boston, Massachusetts, Jacksonville, Florida, Belleville, Illinois, Omaha, Nebraska, Colorado Springs, Colorado, and Los Angeles, California.

The new offices represent another step in Western Union's program, designed to keep pace with the continuing growth of private wire services required by the military and other government agencies. In 1959, the Government and Contract Services and Private Wire Services divisions were established as separate sections of the company's Market Department.

The largest single private wire service is the Air Force's 250,000 domestic complex, and the largest industrial user is General Electric with over 87,000 miles of circuits.

In order to handle the requirements of high-speed data transmission, Western Union is now constructing a transcontinental microwave radio beam transmission network.



Financial News and Comment

By OWEN ELY

Nine Per Cent Annual Growth Rate for Electric Power 1948-63

THE "28th Semi-Annual Electric Power Survey," recently released by the Edison Electric Institute, indicates that the total electric utility industry of the "contiguous" United States (excluding Hawaii and Alaska) at the end of this year should have generating capability of 176 million kilowatts (based on median hydro conditions), an increase of 7.7 per cent over last year. By the end of 1963 capability is expected to reach 211 million kilowatts, reflecting an average gain of 7.3 per cent for the five-year period beginning 1959. For the 15-year period 1948-63 the average annual increase would be 9.1 per cent, which compares very well with the 5 per cent "national growth" rate proposed in the national Democratic platform.

Peak loads are also estimated on a similar basis: The December, 1960, load is expected to reach 137 million kilowatts, an increase of 9.4 per cent over the previous year. By 1963 it should reach 169 million or an annual average increase during a five-year period of 7.6 per cent. For the fifteen years 1948-63 the annual gain is expected to be 8 per cent. As a statistical yardstick, an annual increase of 7.2 per

cent (compounded) represents a doubling every decade.

The 1960 summer peak load (preliminary) was only 133 million kilowatts which was 3 per cent below the forecast of last April; the disparity was due largely to the cool summer which reduced air-conditioning load, while sluggish business conditions also contributed.

REGARDING "gross margin," which means the excess of capability over peak load, there will be an indicated decline from last winter's 30.2 per cent to 25 per cent in 1963; using the summer peaks, the decline would be from 27.2 to 22.3 per cent. Adverse hydro conditions would have comparatively little effect on the

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FINANCIAL NEWS AND COMMENT

forecast for summer peaks and margins, but in December certain areas would be severely affected as to their capability. This is particularly true in the Pacific Northwest, but firm loads in that area can be satisfactorily taken care of even under adverse hydro conditions, the report states.

Scheduled future additions to generating capacity as of October 1, 1960, in terms of name-plate ratings, may be classified as follows in millions of kilowatts:

	Thermal	Hydro	Total
Investor-owned	31.6	2.3	33.9
Public Power—Federal ..	2.8	3.1	5.9
Public Power—Non-federal	2.4	4.9	7.3
Total	36.8	10.3	47.1

A breakdown of the 36.8 million steam-generating capacity according to unit size is as follows:

Size Range, Kilowatts	Per Cent of Total Capacity
600,000 and over	3.5%
500,000 and over	5.5
400,000 and over	3.7
300,000 and over	19.3
200,000 and over	27.4
100,000 and over	33.0
Under 100,000	7.6
	100.0%

REGARDING atomic power developments, the report summarizes as follows: Five projects with a combined rating of nearly 400,000 kilowatts are already in operation, the principal ones being Dresden with 180,000 kilowatts, Shippingport with 60,000, and Yankee Atomic with 136,000. (The latter did not go into operation until after the date of the report.) Fifteen projects with a combined rating of 800,000 kilowatts are under construction, design, or contract negotiations, while four others with combined ratings of 900,000 to 1 million kilowatts are in the planning stage. The total of 25 projects will have

a capacity of over 2 million kilowatts. Seventeen of the projects are associated with investor-owned systems, four with nonfederal government-owned systems, one with a co-operative organization, and three are located at Atomic Energy Commission installations.

States Expected to Grow Most Rapidly in Coming Decade

U. S. NEWS & WORLD REPORT in its October 17th issue contained an alphabetical tabulation of the fifty states, showing estimated rates of gain in population for the decades 1960-70. The magazine had adjusted the 1960 figures to allow for about 1.5 million persons not allocated to states in the recent official count. The official projections for 1970, issued by the Census Bureau in 1957, were also revised in the light of the 1960 census recently completed. Total U. S. population (including Alaska and Hawaii) was estimated at 209 million in 1970 compared with 179 million in 1960, a gain of about 17 per cent, compared with an increase of about 19 per cent in the past decade.

Some of the indicated rates of gain do not seem to jibe with preconceived ideas. Thus, while New England is generally regarded as losing ground population-wise, its states may anticipate gains ranging from 9 to 26 per cent. On the other hand, the southern states, with the exception of Florida, Louisiana, and Texas, make a rather poor showing (especially Kentucky, Mississippi, and Arkansas). Florida, however, should live up to its reputation with a projected gain of 55 per cent—outstripping Alaska with an estimated 50 per cent and Arizona with 47 per cent.

While New York's gain of 9 per cent

PUBLIC UTILITIES FORTNIGHTLY

is well below average, New Jersey is expected to grow 24 per cent, Connecticut 26, and Delaware 27. Virginia is expected to gain 18 per cent but West Virginia shows a "goose egg." The Pacific coast and western states continue to make a

good showing with the exception of Montana and Wyoming, which are somewhat below average; California, Nevada, New Mexico, Oregon, Washington, Colorado, Utah, and Idaho all make a better-than-average showing.



CALENDAR OF PROPOSED UTILITY OFFERINGS

November 16, 1960, to March 31, 1961

<i>Date of Bidding Or Sale</i>	<i>Approx. Amount (Millions)</i>	<i>Bonds and Debentures</i>	<i>Method Of Offering</i>	<i>Moody Rating†</i>
11/16/60	\$30	Wisconsin Electric Power	C	Aa
11/17/60	5	Public Service of New Hampshire	C	—
11/22/60	75	Consolidated Edison	C	Aa
11/29/60	6	Central Maine Power	C	—
12/—/60	20	Northern Natural Gas	N	A
12/ 5/60	75	Southern Bell Tel.	C	Aaa
12/ 6/60	35	Northern States Power	C	Aa
12/12/60	35	Consumers Power	C	Aaa
—/—/60	6	Atlanta Gas Light	—	—
1/—/61	10	Iowa Power & Light	C	—
2/—/61	15	Southwestern Public Service	N	—
3/—/61	12	Arkansas Power & Light	C	—
3/15/61	15	Rochester Gas & Electric	—	Aa
—/—/61	8	South Carolina Electric & Gas	C	—
—/—/61	30	Commonwealth Edison	C	—
—/—/61	8	Otter Tail Power	—	—
—/—/61	10	Missouri Public Service	N	—
—/—/61	15	Arkansas Power & Light	—	—
**	30	Long Island Lighting	C	—
**	30	Wisconsin Electric Power	—	Aa
**	11	Hawaiian Electric	N	—
**	10	Iowa Electric Light & Power	N	—
**	3	Lake Superior District Power	—	A
**	8	California Electric Power	C	—
**	65	Alberta Gas Trunkline	—	—
<i>Convertible Preferred</i>				
12/—/60	3	Central Vermont Public Service	N	—
<i>Preferred</i>				
—/—/60	20	Baltimore Gas & Electric*	—	—
11/16/60	8	Merrimack-Essex Electric	C	—
12/13/60	25	Public Service Electric & Gas	N	—
—/—/61	5	South Carolina Electric & Gas	C	—
2/—/61	3	Southwestern Public Service	N	—
**	15	Texas Eastern Transmission	—	—
**	20	Pacific Lighting System	N	—
**	20	Houston Lighting & Power	C	—
<i>Common Stock—Offered to Stockholders</i>				
11/28/60	84	Mountain States Tel. & Tel.	—	—
<i>Common Stock—Offered to Public</i>				
11/16/60	3	Central Maine Power	N	—
12/—/60	4	Iowa Power & Light	—	—
1/17/61	12	Gulf States Utilities	C	—
**	10	Columbus & Southern Ohio Electric	—	—

†Preliminary, or rating of similar issues. C—Competitive. N—Negotiated. *Timing and kind of senior financing not definitely determined. ** Timing indefinite.

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Arkansas	D3%	Massachusetts ...	15%
North Dakota ...	D1	Michigan	15
Dist. of Columbia	0	Illinois	16
South Dakota ...	0	Indiana	17
West Virginia ..	0	New Hampshire .	17
Nebraska	1	Virginia	18
Kentucky	1	Ohio	18
Mississippi	2	Idaho	18
Oklahoma	4	Oregon	19
Missouri	5	Louisiana	19
Pennsylvania	6	Texas	19
Iowa	7	Washington	22
South Carolina ..	8	New Jersey	24
Alabama	9	Colorado	25
New York	9	Utah	25
Rhode Island	9	Maryland	26
Tennessee	10	Connecticut	26
Vermont	10	Delaware	27
North Carolina ..	10	New Mexico	35
Kansas	12	Nevada	35
Wyoming	13	Hawaii	36
Maine	13	California	38
Montana	13	Arizona	47
Wisconsin	14	Alaska	50
Minnesota	14	Florida	55
Georgia	14	U. S. Average .	17

Georgia Retains "Normalization"; Trend toward Flow Through in Virginia and North Carolina

THE Georgia Public Service Commission in 1955 ordered that "on a tentative basis, subject to revision after further study," Georgia Power Company should normalize its tax savings from accelerated depreciation. On October 24, 1960, the commission rendered its final decision for both accounting and rate-making purposes, continuing the policy of normalizing tax savings; however, it ordered that the reserve for deferred income taxes should be deducted or excluded from the rate base.

In the hearings Herman W. Boozer, Georgia Power vice president in charge of finance, presented an exhibit explaining the benefit to consumers resulting from issuing less securities (because of the extra funds provided through the deferred tax accounting). He used as typi-

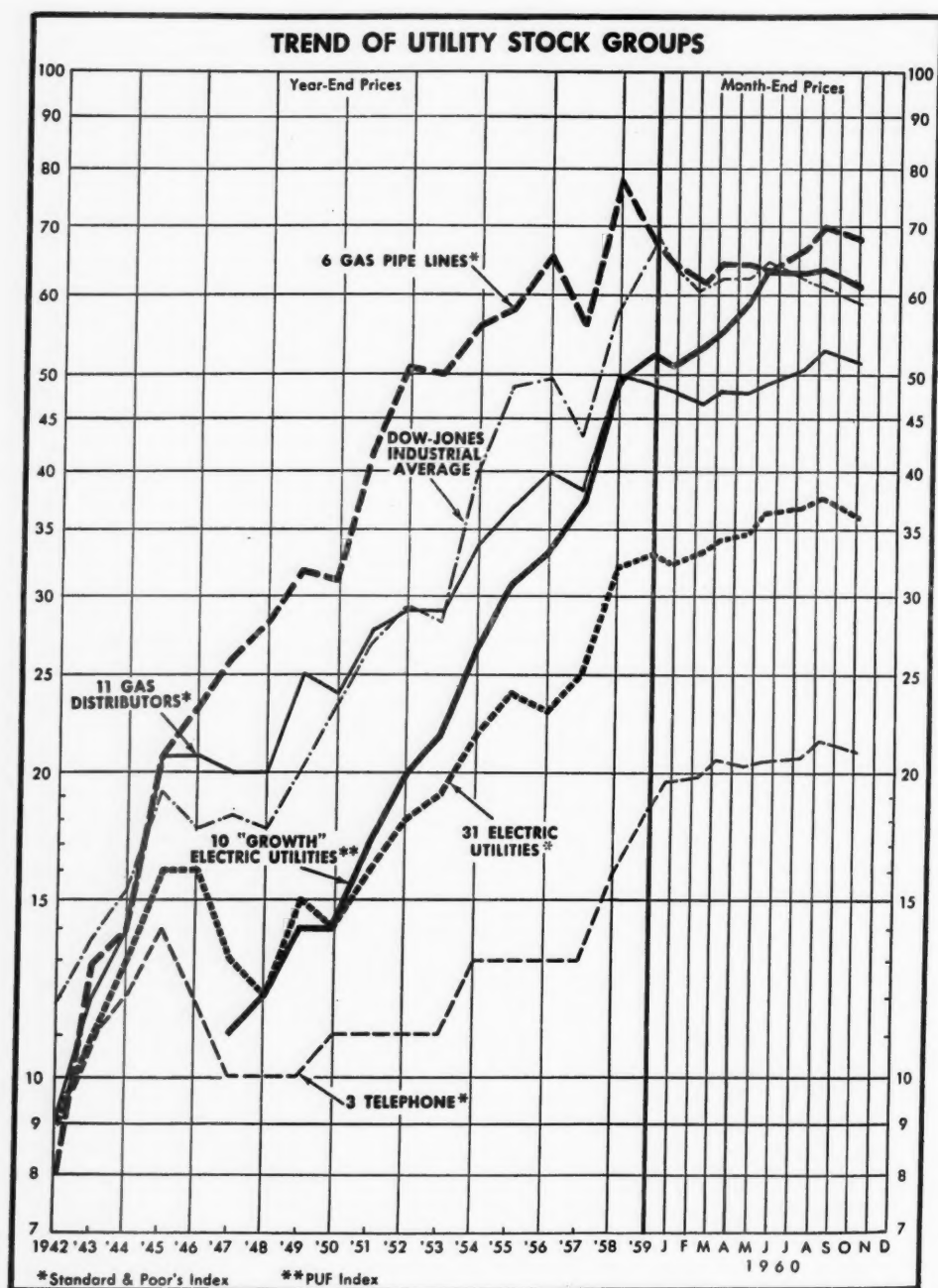
cal yearly plant additions of \$50 million, with a 30-year life and no salvage value. Throughout the entire 30-year period the average funds in use (provided by tax deferrals) would benefit consumers by nearly \$10 million or 12 per cent, because of the elimination of servicing costs on securities which were not issued. In addition, customers would actually pay less because of the commission's policy of not allowing any return on the accumulated reserves for deferred taxes.

MR. BOOZER brought out in his testimony that Georgia Power Company's rate of return, computed under the commission's rule that no return is allowable on the funds accumulated from deferred income taxes, is now a little more than 6 per cent. He stated that if Georgia Power Company had to replace the \$30 million of interest-free funds (presently available from deferred income taxes) with a like amount of regular securities, the company's rate of return would decline by four-tenths of a per cent; and the company might now or later have to seek increased rates to provide additional revenue to cover the capital charge on this \$30 million. He estimated that under present money market conditions such added financing would cost \$2.1 million a year, plus an additional \$1.5 million for income taxes, or a total of \$3.6 million each year to be furnished by consumers.

The commission's order contained the following interesting point:

In refutation of the contention of the advocates of the flow-through method that the reduction in tax liability resulting from the use of accelerated depreciation represents a permanent tax saving, Witness Boozer showed hypothetical illustrations of plant changes under which payment of de-

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ferred income taxes will be required even though the plant balance does not decline. Conclusions reached in this exhibit are that, under conditions of continual, though erratic, plant additions, plant investment balances can remain static and yet the accumulated reserve for deferred federal income tax can decline.

While Georgia's policy has thus been fixed in favor of normalization, this is countered by changes in neighboring states. We understand that Virginia Electric & Power has decided, with the consent of the Virginia commission, to adopt

flow through, although this is not yet reflected in the earnings statement.

NORTH CAROLINA has also moved toward "flow through," although the largest utility operating in the state, Carolina Power & Light, has not been using accelerated depreciation. In the Piedmont Natural Gas Company case, decided several months ago, the North Carolina Utilities Commission stated:

With the passage of the amendments to the federal tax law in 1954 permitting use of accelerated depreciation methods for income tax purposes, this com-



OCTOBER UTILITY FINANCING

Date	Amount (Mill.)	Description	Price To Public	Under- writing Spread	Offer- ing Yield	Aver. Yield For Securities Of Similar Quality	Moody Rating	Success Of Offer- ing
<i>Bonds and Debentures</i>								
10/5	\$30	San Diego Gas & Electric 1st 4½s 1990	100.00	.67C	4.63%	4.40%	Aa	d
10/7	30	Columbia Gas Deb. (s.f.) 5½ 1985	101.06	1.24C	5.05	4.60	A	b
10/19	25	Natural Gas Pipeline 1st (s.f.) 5s 1980	100.00	1.00N	5.00	4.62	A	a
10/19	16	Louisville G.&E. 1st (s.f.) 4½ 1990	102.15	.74C	4.74	4.39	Aaa	a
10/20	25	Pacific Lighting Gas Supply S.F. Deb. 5s 1980	100.63	.78C	4.95	4.62	A	a
10/21	25	Florida Power Corp. 1st (s.f.) 4½ 1990	101.38	.95C	4.66	4.45	Aa	b
10/27	5	Southern Nevada Power 1st 5s 1990	99.50	C	5.03	4.82	Baa	b
11/1	30	United Gas Corp. 1st 5s 1980	101.52	.86C	4.88	4.63	A	—
11/1	30	United Gas Corp. S.F. Deb. 5½ 1980	101.00	.90C	5.05	4.82	Baa	—
<i>Preferred Stocks</i>								
10/12	2	Southern Nevada Power 5.40% (s.f.) Pfd., \$20 Par	20.25	.75N	5.33	—	—	a
10/19	15	Natural Gas Pipeline 5½% (s.f.) Pfd.	100.00	2.75N	5.50	—	—	a
<i>Common Stocks—Offered to Stockholders</i>								
10/17	1	Bridgeport Gas	27.50	—	6.11	—	7.50	—
10/19	5	Missouri Public Service	19.25	—	3.69	—	5.87	—
<i>Common Stocks—Offered to Public</i>								
10/25	5	Pacific Gas Transmission	9.66	.66**	—	—	—	**

*Four hundred seventy thousand units consisting of \$50 debenture and four shares common stock represented by an interim certificate, not detachable. **The offering was made in Canada and apparently was successful. a—It is reported that the issue was well received. b—It is reported that the issue was fairly well received. d—It is reported that the issue sold slowly.

Source of data, Irving Trust Company

PUBLIC UTILITIES FORTNIGHTLY

mission considered it a matter of managerial prerogative as to whether utilities under its jurisdiction would choose to exercise the election permitted by the income tax laws. The commission has also adhered to a policy of allowing only actual estimated income tax liability for purposes of computing operating revenue deductions and has not recognized the "income tax deferral accounts" which generally arise when a company elects to use an accelerated method of computing its depreciation expenses for income tax purposes. . . .

Commissioners through the country, including the federal commissions, have been much engrossed in this intricate and perplexing problem. Few, if any, have reached uniformly satisfactory solutions. Whether this commission should adopt different policies concerning the uniform use, or nonuse, of liberalized depreciation for tax purposes and its rate-making by-products (such as the tax deferral account) by utilities under its jurisdiction remains a ques-

tion for broader study than permitted by this case.

Reporting Weather Data with Gas Earnings

THE earnings per share of natural gas distributors frequently show a wide variation because of changes in winter temperatures, which affect the amount of residential space heating. Analysts, who are asked to give opinions on the relative merits of gas utilities, usually have no "statistical yardstick" readily available to measure the effect of weather on earnings. We note with interest, therefore, that Northern Illinois Gas Company (whose president, Marvin Chandler, was formerly a Wall Street analyst) in its releases of monthly income statements shows at the bottom "Weather data (billing basis)—per cent colder (+) or warmer (—) than normal."

Let us hope that this idea will be adopted by other gas utilities.



FINANCIAL DATA ON ELECTRIC UTILITY STOCKS

Annual Rev. (Mil.)		11/2/60 Price About	Divi- dend Rate	Approx. Yield	Recent Share Earnings	% Incr.		Price- Earnings Ratio	Div. Pay- out	Approx. Book Value
						In Sh. Recent	5-yr. Aver.			
\$324	S American Elec. Power ...	55	\$1.88c	3.4%	\$2.53Se	6%	8%	21.7	74%	\$24
63	O Arizona Pub. Serv.	43	1.20	2.8	*1.91Je	*11	*6	*22.5	63	18
13	O Arkansas Mo. Pwr.	19	1.00	5.3	1.44Se	7	3	13.2	69	10
38	S Atlantic City Elec.	36	1.20	3.3	*1.53Se	*7	*9	*23.5	79	12
169	S Baltimore G. & E.	25	1.00	4.0	1.42Se	—	8	17.6	70	13
8	O Bangor Hydro-Elec.	43	2.20	5.1	3.29Se	8	5	13.1	67	28
7	O Black Hills P. & L.	31	1.48	4.8	2.66Je	12	4	11.7	56	22
116	S Boston Edison	64	3.00	4.7	3.69De	4	4	17.3	81	51
31	A Calif. Elec. Power	18	.84	4.7	*1.02Se	*D12	*10	*17.6	82	12
24	O Calif. Oreg. Power	36	1.60	4.4	*1.88Au	—	*	*19.1	85	26
10	O Calif. Pac. Util.	21	.90	4.3	1.37Se	7	4	15.3	66	12
76	S Carolina P. & L.	40	1.32	3.3	2.28Se	9	6	17.5	58	21
34	S Cent. Hudson G. & E.	23	1.00	4.3	*1.46Se	*5	*8	*15.8	68	13
26	O Cent. Ill. E. & G.	41	1.44	3.5	2.32Se	8	12	17.7	62	15
43	S Cent. Ill. Light	36	1.52	4.2	2.42Se	8	10	14.9	63	18
60	S Cent. Illinois P. S.	52	1.92	3.7	2.98Se	9	7	17.4	64	20
20	O Cent. Louisiana Elec.	26	1.00	3.8	1.31Se	24	7	20.0	76	19
42	O Cent. Maine Pwr.	26	1.40	5.4	*2.02Se	24	*	*12.4	69	21
160	S Cent. & South West	36	.96	2.7	1.44Se	4	6	25.0	67	11
12	O Cent. Vermont P. S.	20	1.08	5.4	*1.40Se	*3	*2	*14.3	77	13
140	S Cincinnati G. & E.	37	1.50	4.1	2.27Je	27	3	16.3	66	16
8	O Citizens Util. "B"	16	.56	3.5	.74Je	13	6j	21.6	76	4

FINANCIAL NEWS AND COMMENT

Annual Rev. (Mill.)	(Continued)	11/2/60 Price About	Divi- dend Rate	Approx. Yield	Recent Share Earnings	% Incr. In Sh. Earnings Recent	5-yr. Aver.	Price- Earnings Ratio	Div. Pay- out	Approx. Book Value
130	S Cleve. Elec. Illum.	50	1.80	3.6	3.10Je	11	9	16.1	58	26
7	O Colo. Cent. Power	30	.75	2.5	1.25Se	13	6	24.0	60	11
52	S Columbus & S. O. E.	53	1.80	3.4	2.87Se	25	6	18.5	63	24
454	S Commonwealth Edison	66	2.00h	5.4h	3.82Se	7	10	17.3	52	33
16	A Community P. S.	28	1.00	3.6	1.52Se	6	6	18.4	66	12
85	O Conn. Lt. & Pr.	24	1.20	5.0	*1.51Se	*10	*4	*15.9	79	15
615	S Consol. Edison	64	3.00	4.7	*3.83Se	D1	*6	*16.7	78	49
258	S Consumers Power	58	2.60	4.5	3.60Se	1	5	16.1	72	35
90	S Dayton P. & L.	56	2.40	4.3	3.25Je	1	4	17.2	74	30
53	S Delaware P. & L.	40	1.14	2.9	1.62Se	2	9	24.7	70	26
267	S Detroit Edison	44	2.00	4.5	2.57Se	9	3	17.1	78	27
156	A Duke Power	50	1.60	3.2	2.22Je	5	10	22.5	72	20
101	S Duquesne Light	24	1.18	4.9	*1.48Je	*7	*5	*16.2	80	10
36	O East. Util. Assoc.	39	2.20	5.6	2.63Se	D16	6	14.8	84	26
3	O Edison Sault Elec.	17	.90	5.3	1.30Ma	3	6	13.0	70	9
17	O El Paso Elec.	39	1.16	3.0	1.75Se	17	7	22.3	66	11
13	S Empire Dist. Elec.	31	1.36	4.4	1.92Se	8	7	16.1	71	16
62	S Florida Power Corp.	34	.80	2.3	1.28Se	20	10	26.6	62	12
155	S Florida P. & L.	56	.96	1.7	2.08Se	9	17	26.9	46	15
4	O Florida Pub. Utils.	18	.72	4.0	1.36Je	12	9	13.2	53	10
231	S General Pub. Util.	24	1.16	4.8	*1.56Je	*7	*7	*15.4	74	15
7	O Green Mt. Power	19	1.10	5.8	1.47Se	16	3	12.9	75	12
78	S Gulf States Util.	34	1.00	3.0	1.41Se	6	8	24.1	71	11
54	A Hartford Electric	62	3.00	4.8	*3.42Se	*D10	NC	*17.0	82	43
27	O Hawaiian Elec.	55	2.50	4.5	3.48Je	8	7	15.8	72	34
105	S Houston L. & P.	83	1.60	1.9	3.28Se	12	6	25.3	49	21
34	S Idaho Power	50	1.80	3.6	2.60Se	20	1	19.2	69	27
104	S Illinois Power	52	2.00	3.8	2.91Se	13	14	17.9	69	20
54	S Indianapolis P. & L.	46	1.70	3.7	2.64Se	10	9	17.4	64	18
33	S Interstate Power	20	.95	4.7	1.17Se	—	4	17.1	81	8
42	S Iowa Elec. L. & P.	43	1.80	4.2	2.63Se	16	6	16.3	68	20
51	S Iowa-Ill. G. & E.	41	1.90	4.6	2.57Se	4	4	16.0	74	20
47	S Iowa P. & L.	38	1.60	4.2	2.39Je	14	3	15.9	66	18
40	O Iowa Pub. Service	18	.80	4.4	1.22Se	4	4	14.8	66	10
17	O Iowa Southern Util.	32	1.48	4.6	2.17Se	—	9	14.7	68	20
64	S Kansas City P. & L.	55	2.32	4.2	3.23Se	7	6	17.0	72	29
36	S Kansas G. & E.	49	1.64	3.3	2.65Se	D3	7	18.5	62	22
54	S Kansas P. & L.	36	1.42	3.9	2.49Se	8	9	14.5	55	17
47	O Kentucky Util.	35	1.60	4.6	2.65Se	D4	6	13.2	60	23
8	O Lake Superior D. P.	25	1.28	5.1	1.74Se	4	4	14.4	74	17
136	S Long Island Ltg.	40	1.40	3.5	*2.18Se	*9	*9	*18.3	64	20
66	S Louisville G. & E.	48	1.40	2.9	2.73Se	13	8	17.6	51	21
12	O Madison G. & E.	26	1.00	3.8	2.03Je	6	3	12.8	49	39
5	A Maine Pub. Service	23	1.24	5.4	1.45Se	—	2	15.9	86	14
8	O Michigan G. & E.	76	2.00e	5.6e	5.61Je	—	12	13.5	36	29
198	S Middle South Util.	28	1.00	3.6	1.45Se	6	7	19.3	69	14
31	S Minn. P. & L.	35	1.60	4.6	2.42Se	7	5	14.5	66	21
16	S Missouri P. S.	19	.72f	3.8	1.15Se	19	5	16.5	63	8
8	O Missouri Util.	30	1.44	3.8	2.02Se	—	—	14.9	71	18
46	S Montana Power	29	1.12	3.9	*1.49Se	*6	*8	*19.5	75	9
172	S New England Elec.	21	1.08	5.1	1.36Je	4	3	15.4	79	15
52	O New England G. & E.	23	1.16	5.0	1.75Se	2	5	13.1	66	17
105	S N. Y. State E. & G.	27	1.20	4.4	*1.82Se	*D6	*8	*14.8	66	18
285	S Niagara Mohawk Power ..	37	1.80	4.9	*2.20Se	*8	—	*16.8	82	23
104	O Northern Indiana P. S. ..	63	2.32	3.7	3.36Se	11	5	18.8	69	26
170	S Northern Sts. Power	26	1.10	4.2	1.49Se	4	6	17.4	74	12
12	O Northwestern P. S.	22	1.10	5.0	1.77Se	17	6	12.4	62	12
151	S Ohio Edison	35	1.48	4.2	2.12Se	10	6	16.5	70	17
58	S Oklahoma G. & E.	30	1.12	3.7	1.41Se	D6	6	21.3	79	11
29	S Orange & Rockland Utils. .	36	1.10	3.1	*1.53De	*20	*14	*23.5	72	14
19	O Otter Tail Power	34	1.80	5.3	2.35Jy	D4	6	14.5	77	24
535	S Pacific G. & E.	65	2.60	4.0	3.89Je	3	5	16.7	67	42
58	O Pacific P. & L.	38	1.60	4.2	*2.22Au	*7	*4	*17.1	72	23
138	S Penn P. & L.	27	1.25	4.6	1.78Se	7	5	15.2	70	13
264	S Phila. Elec.	52	2.24	4.3	2.86Se	—	5	18.2	78	26

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Annual Rev. (Mil.)	(Continued)	11/2/60 Price About	Divi- dend Rate	Approx. Yield	Recent Share Earnings	% Incr. In Sh. Recent	Earn. 5-yr. Aver.	Price- Earnings Ratio	Div. Pay- out	Approx. Book Value
40	O Portland G. E.	31	1.32	4.3	1.99Se	22	4	15.6	66	18
82	S Potomac Elec. Power.	29	1.32	4.6	*1.96Se	*20	* 9	*14.8	67	18
102	S Pub. Serv. of Colo.	61	1.90	3.1	2.79Je	4	6	21.9	68	27
369	S Pub. Serv. E. & G.	40	1.80	4.5	2.54Se	2	4	15.7	71	24
88	S Pub. Serv. of Ind.	44	2.10	4.8	2.58Se	D8	3	17.1	81	27
34	O Pub. Serv. of N. H.	19	1.04	5.5	1.39Se	8	2	13.7	75	14
17	O Pub. Serv. of N. M.	34	1.00	2.9	1.62Se	7	10	20.9	62	12
32	S Puget Sound P. & L.	34	1.56	4.6	2.11Je	2	9	16.0	74	23
72	S Rochester G. & E.	42	1.80b	7.3b	*3.00Se	D10	* 7	*14.0	60	30
10	S St. Joseph L. & P.	35	1.60	4.6	2.25Se	12	6	15.6	71	18
71	S San Diego G. & E.	28	1.20	4.3	1.91Au	10	8	14.7	63	18
12	O Savannah E. & P.	29	1.12	3.9	1.27Au	5	1	22.8	88	12
12	O Sierra Pacific Pr.	41	1.60	3.9	2.53Se	12	14	16.2	63	17
280	S So. Calif. Edison	60	2.60	4.3	*4.31Se	*16	* 6	*13.9	60	42
56	S So. Carolina E. & G.	44	1.40	3.2	1.99Au	12	6	22.1	70	19
8	O Southern Colo. Pr.	19	.90	4.7	1.09Au	D16	—	17.4	83	13
297	S Southern Co.	44	1.40	3.2	2.03Se	8	9	21.7	69	17
21	S So. Indiana G. & E.	35	1.60	4.6	2.56Se	3	2	13.7	63	21
9	O So. Nevada Power	38	1.10	2.9	2.11Se	15	5	18.0	52	15
4	O Southwestern E. S.	17	.76	4.5	1.01Je	1	5	16.8	75	7
47	S Southwestern P. S.	26	.88	3.4	1.14Se	14	7	22.8	77	7
36	A Tampa Electric	31	.72	2.3	1.20Se	30	7	25.8	60	10
183	S Texas Utils.	74	1.92	2.6	3.08Se	8	9	24.0	62	21
47	S Toledo Edison	18	.70	3.9	1.08Se	D7	2	16.7	65	9
20	O Tucson G. E. L. & P.	31	.80	2.6	1.21Se	12	8	25.6	66	9
147	S Union Electric	37	1.80	4.9	*2.18Se	*20	* 5	*17.0	83	17
39	O United Illum.	28	1.38	4.9	*1.73Se	* 5	* 1	*16.2	80	16
6	O Upper Peninsula Pr.	29	1.60	5.5	2.10Je	22	—	13.8	76	19
50	S Utah Power & Light	31	1.32	4.3	1.90Se	4	5	16.3	69	19
151	S Virginia E. & P.	46	1.20	2.6	1.85Se	12	9	24.9	65	17
36	S Wash. Water Pr.	41	2.00	4.9	*2.36Je	*D14	* 7	*17.4	85	29
152	S West Penn Elec.	38	1.70	4.5	2.36Au	—	5	16.1	72	18
82	O West Penn Power	67	3.00	4.5	3.51Je	1	3	19.1	85	26
13	O Western Lt. & Tel.	43	2.00	4.7	3.47Se	9	6	12.4	58	27
32	O Western Mass. Cos.	23	1.20	5.2	1.59Se	D6	—	14.5	75	18
134	S Wisc. El. Pr. (Cons.)	40	1.80	4.5	2.68Je	3	7	14.9	67	27
48	O Wisconsin P. & L.	34	1.48	4.4	2.38Se	1	7	14.3	62	21
46	S Wisconsin P. S.	28	1.30	4.6	2.06Se	10	5	13.6	63	17
Averages				4.2%		7%	6%	17.4	69%	

Foreign Companies

217	A American & Foreign Pr. ..	7	\$.50	7.1%	\$1.30De	D33%	0%	6.4	38%	\$32
151	A Brazilian Traction	4	—	—	.58De	D10	—	6.9	—	28
97	A British Col. Pr.	32	1.40	4.4	2.48De	27	9	12.9	56	36
20	O Calgary Power	21	.40	1.9	1.02Je	7	18	20.6	39	6
18	A Gatineau Power	36	1.50	4.2	1.98De	D22	—	18.2	76	21
16	A Quebec Power	35	1.60	4.6	2.41De	3	9	14.5	66	26
77	A Shawinigan Water & Pr. ..	25	.68	2.7	1.45De	D10	8	17.2	47	19

*Deferred taxes resulting from liberalized depreciation are not normalized. If they had been normalized the price-earnings ratio would be higher, and the rate of increase in share earnings would be smaller. D—Decrease. NC—Not comparable. A—American Stock Exchange. O—Over-the-counter or out-of-town exchange. S—New York Stock Exchange. Ja—January; F—February; Ma—March; Ap—April; My—May; Je—June; Jy—July; Au—August; Se—September; Oc—October; N—November; De—December. b—Also 3 per cent stock dividend (paid January 25, 1960) included in the yield; similar dividends are paid annually, representing balance of earnings. c—Also 2½ per cent stock dividend January 10, 1961. e—Also regular annual 3 per cent stock dividend (paid each year end), included in the yield. f—Also regular stock dividend of one-half per cent quarterly, included in yield (paid since 1956). h—Also 2.4 per cent stock dividend to be paid December 1, 1960, included in yield; stock dividends are paid annually, reflecting balance of earnings. j—The rate of increase would be 12 per cent if the present number of shares had been used to compute share earnings of past years, instead of using the number of shares actually outstanding at the end of each year.



What Others Think

Reaction to the FPC Area Price Policy

DURING the last week in September the Federal Power Commission broke with the traditional utility cost base approach in fixing independent producers' natural gas prices and announced that it would regulate these prices by a geographic yardstick. This policy decision was made at the same time as the final decision in the 12-year-old Phillips Petroleum case, which, in 1954, had called down a U. S. Supreme Court decision requiring independent producer rates to be regulated.

At the forty-second annual convention of the American Gas Association, former Commissioner Connole of the FPC gave an evaluation of the present status of gas regulation. His opinion, even if cautious, was that although the Phillips decision is a sound and worthwhile one, charting a well-defined policy of the commission, it will not have a significant effect on holding down well-head field prices. Prices, he forecast, would escalate at a reduced rate, with a fairly stable producer-distributor price structure expected until the mid-1960's. This trend, he believes, will be because a tendency of demand to push prices up will be offset by growing competition by other fuels.

The former commissioner stated that

some statutory changes are needed to reduce the work load of the commission. Among the needed changes would be the elimination of time-consuming and non-essential applications and procedures. Emphasis, he believes, will swing away from the federal commission to the state commissions, with new attention to more classic regulatory approaches to rate of return.

At the same convention Lester T. Potter, president of the Lone Star Gas Company, called the new FPC area pricing statement a "statesmanlike approach." He believes that it will act as a stabilizing influence on natural gas prices, and he predicted that gas customers served by city companies should increase to 43.7 million before the end of 1969.

IN mid-October, Edward Falck, a consulting engineer of Washington, D. C., spoke before the California Natural Gasoline Association at Santa Monica, California, on the subject of the FPC's "new bold plan" for producer regulation.

Mr. Falck stated that Opinion No. 338 in the Phillips Petroleum case (Docket No. G-1148) and the Policy Statement No. 61-1 are "replete with common sense." He stated that after six years of uncertainty and frustration, the FPC has

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crystallized its position, throwing out the traditional original cost as the lone criterion for fixing producer prices. In its place the FPC has substituted a broad area pricing program.

To put things in their historic context Mr. Falck noted that prior to the Supreme Court decision in the Phillips case, a natural gas producer could negotiate a contract "at arm's length" with a pipeline and be assured of receiving both the initial price and price escalations set forth in the contract. The independent producer was also assured of commencing delivery at the time called for and he was free to discontinue service at the end of a specified time and enter into new contracts with the same pipeline or with some other buyer. This situation has been greatly changed, Mr. Falck notes, due to the exercise of FPC jurisdiction over interstate sales. Regarding this present situation he states:

Today, when a producer negotiates a contract to sell gas to an interstate pipeline he knows that this contract, including both initial price and escalation provisions, will be subject to review by the Federal Power Commission. Before the producer can commence making delivery of gas to the interstate pipeline he must first apply to the FPC for a certificate of public convenience and necessity. If the initial price proposed by him is higher than prevailing prices in the general area in which his gas is to be produced, and higher than the prices of other producers in the area whose contracts have previously been approved by the FPC, it is likely that the commission will condition his certificate in such a way as to compel him to accept a reduced price for his gas. The only way in

which a producer can obtain commission approval of a new price higher than that previously prevailing is by marshaling a comprehensive and convincing case justifying such higher price, and including detailed figures on cost of exploration and discovery, cost of production, urgent market demand for the gas, and absolute need for the higher price as an incentive to bring forth the required additional supply. Thus the producer has in recent years learned that he must be able to prepare factually and legally for the presentation of evidence before the commission. He must be willing to put on direct affirmative evidence in those cases where the producer has the burden of proof, and cross-examination and rebuttal evidence in cases where the commission staff or other parties have the burden of proof. Even after accepting a certificate, the producer is subject to the possibility that all of his contract prices throughout the country may be subject to a general rate investigation initiated by the commission itself or requested by some state regulatory commission, city council, or other consuming group.

MR. FALCK indicated his regret at the passing from the business scene of the American independent producer. He noted that several efforts to pass legislation freeing producers from such jurisdiction have failed. Both President Truman and President Eisenhower vetoed gas bills and, since the Republican veto of 1956, a new bill has not been passed by the House or the Senate. Mr. Falck indicated that in his opinion no complete producer exemption bill will ever pass Congress, this despite "harmony" committees representing producers, pipelines, and distributors, who are attempting to work out

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"SQUAW SAYS TO WISE UP. GET TELEPHONE AND SHE'LL COME BACK."

a bill that could be presented for consideration in 1961.

A policy decision of great importance that has been settled is whether or not the commission should or must review initial prices proposed by producers at the time that gas is first sold to a pipeline in interstate commerce for resale. For a time the FPC felt it was not in the public interest to make a rate case out of every producer certificate case. However, in the U. S. Supreme Court's decision in the Catco case it was decided that the public interest could only be adequately safeguarded if the commission reviewed the

initial prices in certificate applications and determined that they were not excessive. Since this decision in 1959, the commission has reviewed initial prices proposed by producers and it has frequently imposed conditions reducing the contract prices to lower levels. Previously prevailing area price, or the highest price in the general area, has been the yardstick used by the commission.

MR. FALCK stated that another issue settled by the commission and the courts relates to the type of evidence that the commission will permit to be intro-

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duced, as well as the type of evidence that will be insisted on to justify a proposed increase in producer rates. Earlier producers offered copies of their contracts with the pipeline and witnesses swore that these contracts were entered into at arm's length. Also interstate and intrastate field prices were introduced by producers, evidencing the reasonableness of their proposed rates or increased rates, and the commission permitted such testimony. One of the leading cases in this area was the Union Oil Company of California. After the conclusion of Union's presentation the FPC granted a motion to dismiss on the grounds that Union had failed to present cost evidence. The fifth circuit court of appeals in New Orleans reviewed the dismissal and remanded the case to the commission for additional hearings. However, a settlement agreement with the pipeline and distributing companies was worked out and the settlement was finally accepted by the commission. Thus, the additional hearings were not held.

Mr. Falck stated that the case, as well as subsequent cases, made it appear that cost evidence was to be one of the essential ingredients in a producer rate case, much as it has always been in pipeline rate cases.

IN the Panhandle Eastern Pipe Line Company case the U. S. circuit court of appeals for the District of Columbia reversed an FPC decision holding that while the FPC was free to depart from the cost-of-service standard, it must treat cost of service as a departure point. It would also be necessary for the commission to make a specific finding based upon evidence in the record that the increase above cost of service was necessary in the public interest. The Supreme Court denied certiorari and the matter is now

pending before the commission. Argument has been heard but no decision has been handed down. Regarding producer price regulation Mr. Falck stated:

When I first drafted this talk I had in mind saying that after more than six years of regulatory jurisdiction the Federal Power Commission had so far failed to issue any general statement setting forth the economic standards it would rely upon in regulating producer prices. I was planning to enumerate a number of questions that the commission had left wide open, such as, for example, the relative weight to be accorded to field prices *versus* cost of service; the formula to be used in allocating between oil and gas the joint costs of exploration, development, and production; the rate of return to be allowed on investment; and the closely related matter of the treatment of tax allowances for depletion and intangible well-drilling expenses. However, just about two weeks ago, on September 28, 1960, the Federal Power Commission issued its opinion in the landmark Phillips Petroleum Company case and at the same time released a Policy Statement setting forth the outlines of a broad scheme for regulating the rates of independent natural gas producers.

Mr. Falck believes that the most important determination of the commission was the decision to abandon completely the utility rate base method as the sole means of fixing independent producer rates. The utility rate base method was found to be not workable by the commission.

TURNING to the new method of area pricing, Mr. Falck stated that the commission set forth a scheme under

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which two different prices are established in each area. One would apply to new sales and the other to existing contracts. These standards will be used by the commission as a guide in determining whether proposed initial rates should be certified without price condition, and whether proposed rate increases should be accepted or suspended. Mr. Falck pointed out that because of incentives to producers to continue committing newly discovered gas to the interstate market, the commission established ceilings for initial prices in new contracts at a higher level than for increased prices in old contracts. It is anticipated that price differentials will be reduced and eliminated in time.

IN the area of the economics of competition, Mr. Falck noted that five years ago the cry that gas might be priced out of the market was premature. However, he stated that this situation has now changed. Field prices have risen to such a degree in large producing areas that when the cost of transmission is added the fuel is barely competitive with coal

and heavy fuel oil for industrial and power use. Regarding this problem, Mr. Falck concluded:

... The fundamental laws of economics are bound to govern the pricing of any energy resource, including natural gas. Regulation is important in that it may help to assure equity in pricing as among different geographic areas and different classes of customers, but overall and in the final analysis the limit to prices is found in elementary economics.

IN his opinion neither the FPC nor any other branch of the federal government can force consumers to use natural gas if other fuels can be used to greater advantage. He, therefore, stated that the regulatory tangle is important but even more important is the uncovering of new technical and business methods for producing, transporting, and distributing natural gas at an overall cost that will maintain its competitive status and continue to grow.

Business and Utility Risk

THE subject of business risk has often been considered by courts and commissions in relation to earnings of public utilities. Recently two articles by John H. Bickley of Skokie, Illinois, have appeared in *The Journal of Insurance* which attempt to investigate the nature and meaning of "risk" and how business uncertainties are to be determined.

Mr. Bickley, who is a public utility consultant, is a graduate of the University of Pennsylvania and for a number of years taught accounting, finance, and investments at Lehigh University in Pennsylvania. He also has served with the Federal Trade Commission and with the Federal Communications Commis-

sion, as well as in managerial capacities with the public utility industry.

The first article, "Nature of Business Risk," notes that the subject of "risk" pertains to the future, which, by its nature, is unknown. Business risk, itself, is defined as the uncertainty in regard to the outcome of business surrounding the probability of loss or gain and the amount thereof. Mr. Bickley points out that if we had full and dependable knowledge of the future there would be no uncertainty and no risk.

RISK then is separated into "subjective" and "objective" categories by Mr. Bickley. Subjective risk is taken to mean

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not the loss itself, or the conditions that bring about a loss, but the uncertainty about the future and as to whether, when, and how certain conditions, which may be known to exist or to be latent, will operate. He states that while it is known that changes occur in the demands for the products of industry and that these and other changes may cause losses, it is not the change that constitutes the risk but the uncertainty about the nature, time, and extent of change and what the effects will be.

OBJECTIVE risk is embodied in the fact that demands and other things do change, and that such changes may lead to loss or gain in varying degrees. The possibility of such changes and the effects thereof constitute the risk. The relationship of subjective to objective risk is noted when the author states that a knowledge that changes may and probably will occur causes subjective uncertainty.

Probabilities are divided into precalculable and those which cannot be calculated on an actuarial basis. In the former category would be the loss a business might receive from fire, explosion, or water damage. Probabilities which cannot be calculated would be those which have to do with changes in demand and technological developments.

Mr. Bickley states that real risk, in an objective sense, is not known until it is revealed by the passage of time. Risk, he states, is not known until after the event and must be viewed in the light of experience. This then assumes that business risk cannot be evaluated on an actuarial basis.

It seems logical to conclude, Mr. Bickley states, that when the actual risk that has existed is viewed in terms of the results of the forces upon business, that loss evidenced more risk than gain, re-

gardless of whether larger gain was expected as compensation for subjective risk taken.

In judging the above conclusions Mr. Bickley asks if risk may be viewed in relation to what actually happens, rather than primarily in relation to expectations or uncertainty as to what might occur. He states that if we cling to the idea of subjective risk and uncertainty, a decision about relative risk will be largely opinion in nature, even though there may be a good bit of rationalizing about conclusions. Another point that must be decided is whether or not there is a casual link between objective risk and loss or gain, when risk is viewed as the course of events or the forces bearing upon a business.

MR. BICKLEY's second article "Public Utility Stability and Risk" appeared in the summer issue of *The Journal of Insurance*. Since courts and regulatory commissions have frequently declared that risk is an important factor in a determination of a fair return for public utilities, this section should be particularly interesting to readers of the FORTNIGHTLY.

Courts and commissions, Mr. Bickley states, have said that utilities are entitled to earnings equal to those of other business operations which are attended by corresponding risks and uncertainties. This determination of fair return for public utilities requires a selection of industries which have a corresponding risk and uncertainties, as well as an ascertaining of the criteria of business risk.

It is Mr. Bickley's contention that public utilities should be compared with unregulated business enterprise, since the purpose of utility rate regulation is to serve as a substitute for competition in unregulated business. A second comparison that is suggested would be between

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one utility industry and those in other utility fields. A third comparison would be of a particular utility company with those in other industries.

Some of the various possible criteria of business risk that Mr. Bickley suggests are annual gains and losses, business failures, and stability of earnings. On the basis of frequency of absolute gains and losses, Mr. Bickley states that electric, gas, water, telephone, and pipeline companies have had less risk than various other industries.

MR. BICKLEY believes that business failures are unreliable criteria for evaluating risk since such failures are individual happenings with little relationship to the dynamic causes of risk and uncertainty. He points out that even if such failures were accepted as a criterion they would lead to no useful information as to what the earnings of a public utility should be. Mr. Bickley states that the stability and amount of earnings in rela-

tion to the property used in the production of goods and services, and the stability of earnings on invested capital are the most objective criteria of business risk. This is because the degree of stability affects the degree of uncertainty.

In order to compare the returns of the electric utility industry with a manufacturing industry, he states that the percentage rates of each should first be adjusted for stability and then the adjusted return of the manufacturing industry should be equated to the stability of the electric industry. When the returns of the electric industry on net plant and inventories are equated to those of other industries on the basis of difference in stability, the electric industry would have need of higher earnings to equal those of other industries.

The entire concept and study of business risk is at best abstract. Mr. Bickley's two articles give some practical and concrete meaning to a subject which is rather hard to pinpoint or define.

Notes on Recent Publications

ON September 25th the Department of Agriculture published a new book, entitled "*Power to Produce*," which should be of interest to the utility industry. It deals with the mechanical revolution on the farm that has brought a better life to rural Americans. This 1960 Yearbook of Agriculture tells in the layman's language the dramatic change from horse-drawn operations to the marvels of push-button automation. Included are 96 pages of photographs among its 480 pages, which go into the development of tractors, electricity, communications, power on the land, harvesting methods, developments in handling livestock, mechanization of marketing, farm buildings, efficiency of labor, the effects of power, and power in the future. Illustrated are many mechanical developments and new

items of equipment, as well as charts and drawings.

In the foreword Secretary of Agriculture Ezra Taft Benson tells us, "The value of this book is that it pictures on a wide screen and in sharp focus the technological revolution that now is changing not only agriculture but our way of living. . . . The revolution gives us new benefits every month, even every day—better food and more of it, improved industrial products, less work, more leisure . . ." The book, edited by Alfred Stefferud, appears indispensable for the book shelves of the rural departments of utilities that have a stake in what happens to the American farmer.

POWER TO PRODUCE, 1960 Yearbook of Agriculture, 480 pp. Superintendent of Documents, Washington 25, D. C. Price, \$2.25.



The March of Events

TVA Sued on Territory Violation

THE Kentucky Utilities Company has filed a suit in which TVA has been accused of violating the territorial restriction imposed by Congress. This is believed to be the first time such litigation has been entered into since Congress restricted the service area of the authority. Kentucky Utilities has asked for an injunction which would bar TVA from supplying power to New York Mining & Manufacturing Company's new chemical coke plant near Calvert City, Marshall

county. The utility contends the New York mining plant is outside the five-mile limit on TVA territory set by Congress.

Nevertheless, the company has negotiated with TVA to supply its power. Kentucky Utilities claims it has a 60,000-volt line passing 1.62 miles from the plant site, while TVA would have to build a power circuit 5.32 miles to reach the plant. In the event TVA is not enjoined from selling power to the plant, Kentucky Utilities stands to lose more than \$60,000 in annual revenue.

Alabama

Gas Concerns Boost Profits

NATURAL gas companies operating in Alabama made a profit of \$10 million more in 1959 than they did in 1958, the FPC has disclosed. However, not all of it was made from selling natural gas, nor was all of it made in Alabama.

Six companies which have customers in the state all showed a substantial hike in net profits. For example, Alabama-Tennessee Natural Gas Company had natural gas sales for 1959 totaling \$6 million. Its net profits from all sources for the year were \$546,000, an increase of \$52,200 over 1958's net income.

South Georgia Natural Gas' improved

net was from \$132,300 in 1958 to \$420,000 in 1959. A \$2.2 million increase in net profit was shown to have been made by Southern Natural Gas Company. Texas Eastern Transmission upped its profits by \$2.6 million. Transcontinental Gas Pipe Line Corporation showed a \$1.6 million increase in net profits and United Gas Pipe Line Company chalked up a net profit of \$12.8 million, an increase of \$3.4 million over the prior year.

Rate Boost Asked

ALABAMA GAS CORPORATION has asked the Alabama Public Service Commission for a rate increase that would

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raise the average residential customer's bill by 75 cents a month. According to R. A. Puryear, Alabama Gas president, the increased rates would boost gross revenues of the company by about \$1.7 million annually.

The adjustment in rates is being sought chiefly to offset the increased cost of gas purchased from Southern Natural Gas Company. The increase that would re-

sult to residential customers would range from a minimum of 25 cents to \$3.22 per month for users of 50,000 cubic feet.

President Puryear stated that his company regrets increases in natural gas prices, but "when such increases in the cost we pay for gas are permitted to go into effect by the Federal Power Commission, we have no alternative except to ask for rate adjustments."

California

Power Companies May Merge

PACIFIC POWER & LIGHT COMPANY and California Oregon Power Company have been discussing the possibility of a merger of the two organizations, according to a PP&L spokesman. Talks were initiated by PP&L and an offer would likely come from it.

A. S. Cummins, president of California Oregon, said a formal offer to merge is expected within the next month or so. If such a merger were accepted, PP&L would be the surviving company. Cummins said he could not see any rate reduction resulting from the combine and does not think it would benefit customers in southern Oregon.

PP&L, based on annual power revenue, is about two and one-half times larger than Copco. The merger, it was said, would be effected by an exchange of stock of the two companies.

Nation's First Geothermal Power

AT The Geysers, California, man at last has harnessed subterranean power to produce the nation's first electricity with heat slumbering beneath his feet. The feat was accomplished by Pacific Gas and Electric Company with the help of General Electric, which designed and developed a special steam turbine generator to maximize the use of superheated steam conditions found under the ground.

PG&E's plant is actually the world's first privately financed geothermal plant and the first commercial plant of its type in the United States. It is now producing 12,500 kilowatts of power which are being fed into PG&E's power grid in California. A second similar plant can be installed at the site later, in the event experience shows there is adequate steam to warrant such a step.

Florida

Dade County Buys Miami Transit

THE metropolitan government of Dade county in October voted to purchase Miami Transit Company for \$4,358,377. As a result of the action, the county will have its own expanded, improved bus system in operation by February 1st of next year.

Under terms of the agreement, Metro must turn over \$1.5 million in cash and assume all liabilities amounting to nearly \$3 million. Miami Transit Company carries 69 per cent of the total bus passenger volume in the county.

The purchase was not expected to hasten the end of the bus strike in Miami and Miami Beach, which began October

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1st. It was believed some time would be spent arranging the financing of the sale.

The County Transit Authority has plans to eventually acquire and consoli-

date seven private bus companies in Dade and Miami as part of its program to improve the present transit situation in the area.

Illinois

Seeks Gas Heat Authority

NORTHERN ILLINOIS GAS COMPANY has asked the Illinois Commerce Commission to give it authority to offer natural gas heat to all its customers. A company spokesman said Northern Illinois is confident it can keep abreast of demands from all its customers in the 20-county area it serves who need gas for space-heating purposes.

The request made by Northern Illinois would enable any building, regardless of size, to install gas heat. This would apply

to residential, commercial, and industrial structures. H. A. Dieckman, vice president of sales for the company, said that during the past three years, Northern Illinois' daily natural gas supply has about doubled, so that waiting lists for service have been eliminated.

Additional pipeline supplies, plus the cold weather relief afforded by underground storage of natural gas at Herscher and at the company's own storage reservoir near Troy Grove, north of LaSalle, prompted Northern Illinois' action.

Michigan

State Gets Canadian Gas

ATHIRD source of natural gas supply has become available to Michigan Consolidated Gas Company with the flow of gas from the Canadian province of Alberta. Formerly the company had gotten all its gas from fields in Louisiana and Texas-Oklahoma.

The new supply from Alberta will amount to about 71 million cubic feet

daily. Once before in 1894 Canadian gas flowed into Detroit when an iron pipeline was run from Detroit to Walkerville, Ontario, and a second line was built in 1895.

However, by 1902, the fields near Walkerville were exhausted and Michigan Consolidated used manufactured gas until 1936 when it began to get natural gas from Texas.

Pennsylvania

Power Expansion Plan Announced

WEST PENN POWER COMPANY is planning a \$43 million addition to its Mitchell power station near Monongahela. The turbogenerator it will build should produce 250,000 kilowatts of electricity and will be West Penn's largest generating unit, as well as the biggest in the West Penn Electric System, of which West Penn is a part.

The new unit will more than double the capacity of Mitchell station, which now has two generators totaling 174,000 kilowatts.

The addition will bring the total capacity of the seven West Penn stations to more than 1,530,000 kilowatts, and of all stations on the West Penn Electric System to more than 2.6 million kilowatts. The new unit is expected to be in operation by late in 1963.



Progress of Regulation

Trends and Topics

"Flow Through" and Tax Deferrals in Rate Making

CONSIDERABLE controversy exists over the proper rate-making treatment of the income tax benefits of accelerated depreciation and amortization. Should these benefits accrue entirely to the utility or to the consumer? Or should they be shared? Some recent decisions dealing with this problem have set forth convincing arguments in support of conflicting positions. The question of the right to elect a method of depreciation was discussed in 63 PUBLIC UTILITIES FORTNIGHTLY 345 (February 26, 1959); tax expense as affected by accelerated depreciation was considered in 59 PUBLIC UTILITIES FORTNIGHTLY 705 (May 9, 1957); and the accounting aspect of accelerated depreciation was treated in 56 PUBLIC UTILITIES FORTNIGHTLY 977 (December 8, 1955).

There are several methods of handling the tax effects of accelerated depreciation and amortization for rate-making purposes. Under the "flow through" method only the actual taxes paid by the utility are charged to the ratepayers. This affords the maximum advantage to ratepayers. Simple "normalization" allows the utility to charge as an operating expense an amount for taxes equal to that which would be paid under straight-line depreciation. The company may use the interest-free deferred tax fund in its operations and earn a return on it. Here, the maximum advantage accrues to the company. Other methods involve normalization but require significant adjustments in other areas of the rate-making process. The fund may be excluded from the rate base; interest on the fund may be added to net operating revenues; or the interest-free fund may be reflected in the cost of capital and the rate of return. These methods are discussed at length by the Colorado commission in *Re Public Service Co. of Colorado* (34 PUR3d 186).

Some authorities distinguish between the tax effects of accelerated depreciation under § 167 of the Internal Revenue Code and accelerated amortization under § 168, holding that deferrals of tax liability arise from accelerated amortization while permanent tax savings result from accelerated

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depreciation. When this view is adopted, normalization of income tax expense may be recognized in the one case and not in the other.

"Flow Through" to Consumers

The Colorado commission has adopted the "flow through" doctrine with respect to both accelerated depreciation and amortization (34 PUR3d 186). Tax savings, it was explained, are funneled into present plant for the use of present customers, and such moneys are derived from rates charged to the ratepayers. It is just, therefore, that the present ratepayers should derive the benefit from the savings. That the "flow through" method may compel the utility to seek new money by the sale of securities merely places the financing of additions to plant in their proper perspective, the commission declared. Additions should be paid for "by adopting the classical methods of rate making." If fictitious expenditures on rate base are recognized in the rate-making calculations, "we then are faced with a dilemma either of adjusting our calculations of sound classical procedures on cost of money and rate of return, or of allowing a windfall to the company, which is inconsistent with the concept of a utility as a 'cost plus' operation."

In *Re Cincinnati Gas & E. Co.* October 7, 1960, the Ohio commission adopted the "flow through" theory with respect to accelerated depreciation. Looking to an expected continuation of economic expansion and investment, the commission rejected the idea of a deferral of tax liability and, consequently, rejected also the idea of normalization of tax expense. (The case is discussed more fully on page 853.)

The California commission recently determined that there is no income tax deferral and no deferred tax liability with respect to accelerated depreciation (33 PUR3d 209). It rejected normalization of income tax expense resulting from depreciation under § 167. "Here, we have no room for any overreaching by a public utility, as regards the ratepayer," said the commission. "Such would be grossly out of character."

Only actual taxes should be allowed as an operating expense, according to the Maine supreme court in a case involving accelerated depreciation (21 PUR3d 321). The court could find no intent on the part of Congress that ratepayers should provide an interest-free loan to the utility through the present payment of a deferred tax. The Maine commission, incidentally, later found that an electric company, by not continuing to use accelerated depreciation, was guilty of "an abuse of discretion which would place an unfair burden upon its customers." (26 PUR3d 489.)

The Pennsylvania superior court, sustaining the commission in rejecting the idea of normalization, thought it "obvious at once" that Congress did not intend as a matter of law that the tax benefits of accelerated depreciation should be retained by regulated utilities (17 PUR3d 249).

For equitable treatment, said the New York commission, there should be some sharing of the § 167 tax benefits between the customer and the utility, "to the customers because it is the duty of the utility to keep its operating costs as low as is consistent with the maintenance of adequate service and to

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the utility or its security holders to furnish an incentive for the use of the most advantageous tax depreciation method." (28 PUR3d 317.) The major part of the benefits, however, would go to the consumer. In adopting the actual tax basis, the commission thought "some modification of rate of return would be necessary." In an earlier policy statement relating to accelerated depreciation and amortization, the commission indicated that it would consider the effect of any § 168 tax benefits upon the utility in determining the proper rate of return (28 PUR3d 171).

Deferred Taxes Excluded from Rate Base

The Illinois supreme court, recognizing normalization of tax expense, ruled that funds generated by accruing deferred taxes, and any facilities financed out of such funds, must be excluded from the rate base because the benefit of accelerated depreciation would otherwise be shifted from the ratepayers to the shareholders (33 PUR3d 76). The court observed that predictions of future development are too speculative to indicate with certainty that economic expansion will continue. If for any reason continued investment at current levels should cease, or accelerated depreciation be denied, the financial stability of utilities might be jeopardized in the absence of some provision for the increased taxes that would result. Therefore, the commission should be permitted to safeguard the financial integrity of utilities by recognizing as present expenses those tax liabilities which are deferred by the use of accelerated depreciation for federal tax purposes.

The Illinois commission, in a somewhat earlier case, considered the propriety of normalization and the rate base adjustment (24 PUR3d 209). Said the commission:

"Even if, as some regulatory authorities have contended, it is possible that the deferred income taxes will be indefinitely deferred, there could be no detriment to the company's customers. In that contingency, there will be a permanent reduction of the company's rate base. To whatever extent the deferred taxes become payable, the reserve will be available until exhausted. To whatever extent the reserve is not used, it will operate as a continuing reduction of the company's rate base."

Through normalization of income tax expense, the New Hampshire commission asserted, the ratepayer definitely provides the deferred tax fund, and the companies have the use of the fund until the deferred taxes are paid (27 PUR3d 113). But the company should not be allowed a return on capital it does not provide. Even if the fund is invested in assets other than plant or working capital, said the commission, it should still be deducted from the rate base.

Deducting from the rate base the interest-free deferred taxes arising from accelerated depreciation and amortization will "equitably divide" the benefits of the tax relief between the utility and the customers, the Kentucky commission has observed (22 PUR3d 113).

The Pennsylvania commission, allowing normalization on accelerated amortization under § 168, held that the deferred tax reserve was properly

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excluded by the company from "all measures of value" (33 PUR3d 177).

Cost of Capital Adjustment

Methods which pass the immediate benefits of accelerated depreciation directly to the consumer, with little or no consideration given to the risks to future consumers or to the risks which the stockholders assume in electing to take accelerated depreciation, are not in the public interest in the long run, the Kansas commission declared (23 PUR3d 45). "Flow through" was rejected as not safeguarding the risks assumed for future consumers.

But neither should all the benefits accrue to the stockholders, said the commission. Competitive industries can be expected to pass on to consumers by way of lower prices, or in other ways, a fair share of the benefits they derive from accelerated depreciation. Consumers of utility services ought, also, to share in such benefits. The commission also considered allowing normalization and reducing the rate base by the amount of the tax deferral reserve, but rejected this method because it failed to recognize the risks assumed by the stockholders and would cause fluctuations in the rate base.

This commission decided to allow normalization of taxes, include the deferred tax reserve in the rate base, and consider the tax deferral as interest-free capital in arriving at an appropriate rate of return on capital. This treatment, it was pointed out, would tend to stabilize the rate structure, and enable the commission in future rate reviews to reappraise, in the light of experience, the risks, benefits, and effects of accelerated depreciation. If the deferred tax reserve should continue to grow, the cost of capital would be reduced and greater benefits could be passed on to consumers in the rate of return allowed. If, on the other hand, the reserve should decrease, the rate of return could be appropriately adjusted.

Among jurisdictions in which this method is applied to accelerated amortization, the Washington commission indicated that it is "more appropriate" to consider the deferred tax fund in arriving at the required rate of return than to exclude it from the rate base (33 PUR3d 468).

Deferred Taxes Not Customer Contribution

In a policy statement relating to accelerated amortization, the Federal Power Commission rejected as fallacious an argument that deferred taxes were equivalent to customers' contributions and that no return should be allowed on them (2 PUR3d 41). The commission stated:

"The customers are not called upon to do anything more or different than they are now doing. They will pay the same rates, no more, no less. They neither lend nor give their money to the utility. Their position is the same with accelerated amortization as it is without it. It is the other two parties to the transaction who change their position—the United States government and the utility. The United States Treasury will not receive, in the five-year period, money which it otherwise would have received, and the utility will have the money which the Treasury does not have during that period. Thereafter, the utility starts paying the money back to the Treasury. No contribution is made by the customers or by anyone else."

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The federal commission rejected a proposal that the temporary cash savings which accrue during the five-year period should be charged to the depreciation reserve and thereby deducted from the rate base. "Deferred taxes," it was observed, "are not depreciation and should not arbitrarily be labeled as such in order to prevent a certificate holder from receiving what our government has given him."

A federal court of appeals agreed with the Federal Power Commission that the intent of Congress reflected in § 168 is not to benefit consumers but rather the taxpayer in order to encourage construction (11 PUR3d 113). The court further agreed with the commission that tax deferrals resulting from accelerated amortization should not be deducted from the rate base. It was pointed out that this treatment does not increase rates to the consumer; it merely does not operate to reduce them. It aids the utility but neither aids nor harms the consumer.

In a more recent case the Federal Power Commission held that a gas company was entitled to retain the advantages of § 167 as well as § 168 (29 PUR3d 469). Normalization of taxes resulting from accelerated depreciation was approved. The account for accumulated taxes does not belong to the ratepayers, it was said. The intent of Congress in enacting § 167 was not to benefit consumers but to encourage construction. The commission observed, however, that it might be shown in a proper case that deferred taxes have a favorable effect on the utility's cost of money, "and this effect might lead us to consider whether to reflect this tendency in determining a fair rate of return."

The Michigan commission declared that the sums generated by the deferral of federal taxes, which would have to be paid if the company elected not to take accelerated depreciation, could not be construed "under any stretch of the imagination" as forcing a ratepayer to contribute capital to a utility (22 PUR3d 369).

Review of Current Cases

"Flow Through" Applied to Accelerated Depreciation And Hypothetical Tax and Interest Cost Recognized

ON application by the Cincinnati Gas & Electric Company for rehearing of a recent rate order (33 PUR3d 1), the Ohio commission modified the order, adopting the "flow through" theory with respect to accelerated depreciation in place of normalization of income tax expense previously allowed pending determination of a permanent policy on this question.

Deferred Tax Theory Rejected

The company argued that its current reduction in tax liability by reason of accelerated depreciation was a tax deferral that would have to be paid at some future time. It was urged that the full income tax liability which would be incurred if straight-line depreciation were used should be allowed as an operating ex-

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pense for rate-making purposes in order to provide for this future tax liability. The company contended that the advantages offered by accelerated depreciation were intended to accrue to the taxpayer rather than to the ratepayer.

A witness called by the commission testified that the idea that the tax reduction from the use of accelerated depreciation is a deferral results from restricting attention to a single piece of property. He explained that the federal income tax is not levied on items of property but on income for an entire company as a whole.

The commission thought it clear that Cincinnati Gas & Electric would continue to make new additions in view of expected national economic growth. Such additions will more than offset diminishing depreciation deductions taken for older assets. The commission, consequently, rejected the theory that a deferral of tax liability arises from the use of accelerated depreciation, and it, therefore, rejected normalization of taxes for rate-making purposes. No such deferral exists and no such liability will arise, the commission declared. Only the income tax actually paid by the company would be allowed.

The commission further indicated that it had found no intent on the part of Congress that the ratepayers of a regulated utility should provide an interest-free loan to the utility through the present payment of a deferred tax. Nor could the commission's failure to permit normalization for rate-making purposes be regarded as an unconstitutional im-

pediment to the collection of taxes by the federal government.

Rate of Return Increased

The commission followed an Ohio supreme court decision (34 PUR3d 182) handed down since the commission's original decision. The court there held that in determining the allowable rate of return consideration must be given to a corporation having debt and equity capital in a total amount substantially equal to the statutory rate base, with a reasonable amount allowed for interest on such debt whether it is more or less than the interest actually paid.

The decision further indicated that the income tax or interest actually paid by a rate applicant is of no concern in determining the income tax liability of a utility for rate-making purposes. The commission should consider, rather, the taxes on income and the interest on debts of a company organized to provide the public with the use of property such as the applicant provides, such property having a value substantially equal to the statutory rate base and the debt and stock of such hypothetical company being substantially equal to the statutory rate base.

In the light of these pronouncements, the commission re-examined its prior finding of a fair rate of return of 5.5 per cent and made adjustments resulting in an allowable rate of return of 5.6 per cent, which it found just and reasonable. Appropriate rates were authorized. *Re Cincinnati Gas & E. Co. No. 27,749, October 7, 1960.*



Charitable Contributions Disallowed as Expense and Allowance Made for Attrition

THE West Virginia commission, in a gas rate proceeding, reiterated its previous stand that charitable contribu-

tions should not be allowed as an operating expense. By disallowing contributions as an expense item, the commission

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made it clear that it was not saying utilities could not or should not make such contributions. They can contribute all they like, said the commission, but the contributions should be of their own money, not of someone else's money.

If the contribution were allowed as an operating expense, then the utility's rates would inevitably be raised to the extent that the amount contributed is collected from customers. That would take the item out of the realm of a contribution, since the utility would not have done more than collect for the charitable institutions and force its customers to pay them. It would receive credit for contributions, then pass the cost directly to ratepayers. Contributions would be embedded in the customers' bills so that they would not be aware of it.

A forced contribution to charity is not charity, said the commission. Furthermore, it is a misrepresentation by the utility to its customers, to the public, and to the charity organization. Contributions made by a utility should be out of profits, which belong to the stockholders. They should be paid out of proprietorship funds, not by the company's customers.

Attrition Increment

Although the commission recognized objections to an original cost rate base, it found worse objections to any of the alternatives. It concluded that original cost was the only rate base that could be calculated with accuracy from the company's books. It believed, however, that to confine a company to earnings on its original cost rate base was to disregard the change in property values which in recent years had resulted from inflation. It felt that a pragmatical adjustment had to be made, once original cost was estab-

lished, for the purpose of preventing an erosion of earnings because of attrition.

It, therefore, added an increment to the net depreciated original cost rate base to compensate for the effects of inflation. The increased rates granted would provide a return of 6.4 per cent, which the commission considered reasonable, and which paralleled the cost-of-money approach.

Allocations

Considerable controversy had arisen over the assignment between demand and commodity of the expense incurred by the company in having gas transported to it from its supplier. The purpose for which the money was paid—i.e., to obtain gas—was controlling, held the commission, and in final analysis, such payment was no more than a purchased gas cost. Since the company had classified its other purchased gas cost to commodity and appeared content to do so, this particular expense was also assigned to commodity cost. General and administrative expense was spread among the functions on the basis of the labor cost of each function, since such a method appeared to have more merit than others because of simplicity of calculation and application.

Accelerated Depreciation

The commission again refused to permit income tax expense allowance other than the amount actually paid. It made no difference that a utility had elected an accelerated depreciation option, since the commission believed the utility's position on this question was no more than fiction, and no amount of legalistic legerdemain could persuade it otherwise. *Re United Fuel Gas Co. Case No. 4936, September 14, 1960.*

Railroad Upheld in Discontinuing Passenger Trains

THE Kansas supreme court upheld the right of St. Louis-San Francisco Railway Company to discontinue two passenger trains on the grounds of lack of public need and heavy financial loss. The high court of the state affirmed a lower court judgment which set aside as unreasonable the commission's denial of permission to discontinue the service.

The trains operated daily between Monett, Missouri, and Wichita. Traffic on them had declined to 7.6 passengers per train mile. Total annual revenues had dwindled to \$132,000, while out-of-pocket expenses amounted to \$207,000. Other rail, bus, and automobile transportation was available to all of the communities served by the two trains.

Although the court was sympathetic with the aspirations of the protestants to keep the trains running, it appeared that "the cold, hard facts of record" clearly established that, for all practical purposes, the traveling public had abandoned the two trains. It is the public necessity as distinguished from the local convenience of a few that affords the primary consideration in determining if trains operated at great loss may be discontinued, said the court, and the best evidence as to whether there is a public necessity for continued service is the extent to which the public uses it. *St. Louis-San Francisco R. Co. v. (Kansas State Corp. Commission) City of Fall River et al.* 353 P2d 505.



Individual Consumer Properly Denied Intervention In Rate Proceeding

THE Missouri commission did not abuse its discretion in denying intervention in a water rate proceeding by a protesting consumer, the Missouri supreme court ruled, since the consumer had no interest different from that of the general public.

It was also held that the commission properly refused to permit this consumer, who was not an attorney, to act as attorney for twenty-five other consumers.

Neither could he be permitted to cross-examine witnesses. A city attorney was present, as well as attorneys for water users and counsel for the commission, and they conducted the cross-examination.

It appeared that the public interest, which must be allowed representation in a rate proceeding, was amply represented in this case. *Smith et al. v. Missouri Pub. Service Commission*, 336 SW2d 491.



Affirmative Proof Required in Reparation Case

EVEN if a rail carrier does not contest a claim by a shipper for reparation by reason of alleged unreasonable charges, the California commission declared, the proof necessary to justify reparation is no less than would be required had the carrier opposed reparation. Neither is an admission by the

carrier that the assailed rates are unreasonable a sufficient ground upon which to base an award. Nor does it help the complainant's case that the carrier has subsequently reduced its charges for the service which gave rise to the claim. In such circumstances, the commission dismissed a claim for reparation.

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Although there may be no issue as between the actual parties, it is essential that the commission carefully scrutinize the proof in support of the complaint and determine that it measures up to the relief sought, lest by granting reparation the commission sanctions what in substance and effect is a rebate which may result in unlawful discrimination.

The shipper did not submit any affirma-

tive evidence in the form of rate comparisons, revenue comparisons, and other probative data which would establish that the assailed charges were unreasonable and that the rate which it sought was, in fact, the maximum reasonable rate for the transportation involved. *Holly Sugar Corp. v. Santa Maria Valley R. Co. et al.* Decision No. 60683, Case No. 6371, September 1, 1960.



Additional Competition Detrimental

THE Colorado commission denied an application for a call and demand air carrier certificate. The commission had found itself in a difficult position. It had an applicant well qualified by experience, financially responsible, which desired to furnish the service in question, while, on the other hand, it had granted the protesting carrier a certificate to serve.

The record disclosed that the area had not favored locally based aircraft since the commission had granted four or five certificates and each holder failed to attract sufficient business. The protesting carrier owed a substantial amount to the airport and had difficulty in keeping his insurance current.

Even without competition, the commission said, the protesting carrier was having trouble due to insufficient business.

Although the protesting carrier was not as aggressive as it should have been,

the commission could not see where there was potential business for an additional carrier.

To permit more air carriers to operate than is reasonably necessary would deprive the existing carrier of the benefit of its certificate. To admit several in a field of activity and then to decrease the volume of business for each would tend to make overhead expenses and other expenses of each utility heavier, to the point of being burdensome.

It would be only a matter of time until the weakest and least able financially to withstand the pressure of little or no business had to abandon their activities as a public utility. The commission recognized that the protestants would have to make an attempt to improve service, but was of the opinion that only one operator was warranted in the area. *Re Byerly Aviation, Inc. Application No. 18002*, Decision No. 55027, September 6, 1960.



Character, Not Defense, Determines Federal-question Jurisdiction

THE U. S. district court dismissed an action which had been brought by an air carrier for a declaratory judgment and injunction restraining the Nevada commission from enforcing certain statutory provisions. The carrier, which had

originally obtained an intrastate certificate from the commission, subsequently obtained an interstate certificate from the Civil Aeronautics Board. It notified the state commission that it intended to discontinue service between the points set

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forth in its intrastate certificate, and that it would not comply with the statute requiring it to give the commission twenty days' notice of intention to abandon service and obtain a commission order permitting the discontinuance. It insisted it was subject to exclusive CAB jurisdiction, which pre-empted the authority of the state commission. The commission ordered the carrier to reinstate full service between the points, and the carrier brought the suit for the declaratory judgment and injunction.

The court pointed out that a federal court had to abstain from determining the constitutionality of a state statute if the statute left reasonable room for a construction by the state courts which might avoid in whole or in part the necessity for federal constitutional adjudication.

The rule precluded court consideration of the merits of the carrier's claim. There were a number of alternative constructions which a state court could place upon the statutory provisions, pointed out the court, particularly in view of the policy that, whenever possible, courts should construe statutes so as to avoid conflicts with the federal Constitution.

The state court might construe the act as conferring upon the state commission authority to regulate only intrastate carriers; or it might decide that the statutory provision conferred on the commission authority to regulate to the full limit of the state's constitutional power. In that

case, the state court would then decide whether Congress had pre-empted the field—not for the purpose of determining the constitutionality of the state act, but solely as an element to be considered in determining the reach of the state law as a matter of construction.

The court then went on to explain another reason why dismissal of the action was required. Where the complaint in an action for declaratory judgment seeks in essence to assert a defense to an impending or threatened state court action, it is the character of the threatened action, and not the defense, which will determine whether there is federal-question jurisdiction in the district court. The carrier, in the district court action, had actually been seeking freedom from prosecution in a state court. Its complaint had alleged that court action for statutory penalties for violation of the statute would be instituted. In the alternative, the commission would seek mandamus or injunction as elsewhere provided by the state law.

Any of these threatened actions would necessarily be based solely upon the provisions of the statute, pointed out the court. In none of these actions would the commission's complaint raise a federal question. Therefore, the carrier's action for a declaratory judgment and for an injunction failed to raise a federal question within the jurisdiction of the court. *Bonanza Air Lines, Inc. v. Nevada Pub. Service Commission et al. No. 1460, August 31, 1960.*



Electric Rate Increase Helps Eliminate Differential Between Commercial and Residential Rates

THE Oregon commissioner approved the full amount of a rate increase requested by the California Oregon Power Company, with only minor adjustments. Recognizing an unsatisfactory dif-

ferential between residential and commercial rates, the company had filed its increase to apply only to residential customers. In some instances the company's commercial rate for low consumption

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was more than twice the residential billing for the same consumption.

During the course of the proceeding, the company agreed with the staff's position that the differential could be reduced without the burden of the entire increase falling upon the residential ratepayers. Besides increasing residential rates, therefore, rates were raised in the intermediate and high use blocks of commercial and industrial users and reduced in lower use blocks of the same customers. Flat rate frozen schedules for water heating and auto camps were permanently suspended.

Moderate Return Requested

For the purpose of determining a fair rate of return, the commission approved the company's actual capital structure of 57.55 per cent debt, 33.01 per cent common equity, and 9.44 per cent preferred stock. It appeared that the requested revenue increase would provide a rate of return of 8.5 per cent on the common equity, which is somewhat less than comparable companies earn. Taking into account debt cost of 3.78 per cent and preferred stock cost of 5.47 per cent, the rate of return on the original cost rate base would amount to only 5.51 per cent—a rate “no more than fair and reasonable.”

Ratepayers' Funds Considered

Although a substantial fund of deferred income taxes, accrued under accelerated amortization, was not excluded from the rate base, the interest-free fund was taken into consideration in determining the cost of capital to the utility company.

The commission refused, however, to charge the ratepayers with accruals to a fund for injuries and damages. It was recognized that savings would accrue to the ratepayers from the favorable premium which the company would pay on a \$25,000 deductible liability and damage insurance policy and that this saving warranted consideration of a reserve fund, furnished by the ratepayers, to meet claims within the deductible amount. But in this case, in the absence of persuasive evidence of the necessary amount of the fund and, further, in the absence of evidence of any claims actually paid, the commission disallowed a claim for a \$2,000 monthly charge to the fund.

Working capital of about \$1,113,000, including working cash and materials and supplies, was included in the rate base of approximately \$114.5 million. *Re California Oregon Power Co. Order No. 37396, U-F-2245, September 20, 1960.*



Secretary's Report Held Insufficient Evidence To Support Order

THE Ohio commission ruled that the filed report of the secretary of the commission—a written summary of the administrative investigation conducted by the commission's technical staffs—does not, standing alone, constitute evidence on which an order may be based when objections have been filed to the report. The Dayton Power & Light Company, seeking a rate increase, rested its case on

the secretary's report, without offering direct testimony as to the value of its property or respecting other matters in issue, and without formal introduction in the record of the hearings in accordance with the usual rules for producing evidence.

Upon motion to dismiss made by the city to be affected by the proposed rate increase, the commission held that unless

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the company requested reopening for the presentation of testimony in support of its application, the application would be dismissed.

The report of the secretary, the commission pointed out, is merely advisory in nature, being for the information and guidance of ratepayers' representatives, the applicant, and the commission. It is generally submitted into evidence as part of the formal record of the rate proceeding. The findings contained in the report, as well as the testimony of the commission's staff, are subject to cross-examination by all parties at the public hearings in the same manner as any other evidence. The findings of the staff, as set forth in the report, are not binding on the commission in its final determinations. Upon

objections to the report, hearings must be held for the taking of testimony.

The commission observed that the hearing stage of the proceedings before the commission is adversary in character and differs fundamentally from the processes leading to the report of the secretary. In view of the method of appeal from orders of the commission, the hearings before the commission must contain all of the elements of a fair trial or hearing when rights are asserted. Thus, in order for the report of the secretary to be considered as part or all of the evidence necessary to sustain an order, it must be received under the established rules for the production of evidence. *Re Dayton Power & Light Co. No. 28,636, October 17, 1960.*



Property Losses Do Not Detract from Commission Jurisdiction

THE California commission ordered a company engaged in the business of scenic excursion trips by vessels to discontinue operation until it procured a commission certificate. The company had argued that the exercise of jurisdiction by the commission as to admission prices, schedules, or periods of operation would violate the lease it held with an amusement park, and that any breach of the lease made necessary by a commission order would result in a forfeiture under a chattel mortgage and a resultant loss of property valued at approximately \$70,000.

The scenic excursion rides consisted of 15- to 20-minute round trips on the coastal waters in the immediate vicinity of the

pier. There were no intermediate stops, and the vessels returned to the same point from which they originated. The rides were not operated on a fixed schedule.

The commission held that the operations fell within the statutory definition of a common carrier by vessel between points, notwithstanding the absence of stops at intermediate points and origination and termination at the same point. The commission was bound by the statutory mandate to regulate such carriers, regardless of financial property losses involved. Therefore, the company was ordered to cease and desist from operation until it had obtained a certificate. *Re Margee Corp. Decision No. 60752, Case No. 6374, September 13, 1960.*



Free Transportation by Motel Not Common Carriage

THE Colorado commission held that transportation of motel guests, by

the motel's management, to and from an airport did not constitute common car-

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rier transportation subject to commission regulation.

The transported motel guests paid the same for accommodations as the non-transported guests.

The costs were absorbed in the overall expenses of the motel operation. The service was incidental to the main busi-

ness. To avail himself of the service, a member of the public had to be either a guest, or a prospective guest, of the motel. The service was not offered and provided indiscriminately to the public at large. *Yellow Cab, Inc. et al. v. Skyways Service Co., Inc. Case Nos. 5158, 5159, Decision No. 55240, October 19, 1960.*

Other Recent Rulings

Commodity Determines Rates. The Colorado commission, in denying a motor carrier association permission to increase rates for the transportation of milk in cans, held that the charging of higher rates for transportation of milk in cans than on the same commodity transported in bulk tanks was unduly discriminatory since charges for like quantities carried between like points of shipment and destination must be equal upon the commodity itself, irrespective of the mode of carriage or the tank or barrel package in which it is contained. *Re Motor Carrier Rates on Milk in Cans, I&S Docket No. 431, Decision No. 54784, August 2, 1960.*

Confiscation Prohibited. While a utility may not be guaranteed a profit, the Georgia commission pointed out in a transit rate proceeding, utility properties may not be confiscated by compelling service at rates which do not cover legitimate expenses and a reasonable return on invested capital. *Re Atlanta Transit System, Inc. et al. File No. 19568/MCA 8545, Docket No. 1571-U, August 9, 1960.*

Extension Rule. The Missouri commission held that, with respect to a water company rule concerning extension of mains to existing householders, maximum

liberality, consistent with fairness to existing customers, should be the practice. *Re Capital City Water Co. Case No. 14,438, August 9, 1960.*

Not Contract Carriage. The New York commission denied an application for a permit to operate as a contract carrier of passengers by motor vehicle, transporting passengers between points in a certain county and two airports, where the evidence showed that the applicant had not entered into a contract or agreement to provide the proposed service and that the proposed operation was actually omnibus service, not contract carriage. *Re Wilder Transportation, Inc. Case 21060, August 9, 1960.*

Military Reservation off Limits. The Utah commission held that although it had authority to adjust carrier operations to prevent economic waste or destructive competition, it had no authority or jurisdiction over movements within a military reservation. *Culleton (Midvale Bus Line) v. Lake Shore Motor Coach Lines, Inc. Case No. 4852, August 10, 1960.*

Discriminatory Distribution Rate. The Missouri commission held that a distribution rate of 19 cents for quantities less than 2,500 pounds and a minimum charge

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as low as \$1.90 were discriminatory to shippers who did not receive distribution service since the rates were not sufficient to cover the actual cost of effecting the delivery so that shippers who did not receive such service would bear a portion of the costs. *Re Railroad All-freight Rates, Case No. 14,364, August 11, 1960.*

Telephone Company Return. A return of 4.1 per cent on a telephone company's net book value rate base was not considered unreasonable by the Wisconsin commission. *Re Iron River Water, Light & Teleph. Co. 2-U-5357, August 11, 1960.*

Carrier Consolidation. The Utah commission approved the consolidation of two motor common carriers possessing similar authority as being in the public interest where the volume of traffic was not sufficient to justify profitable independent operation by each. *Re Brinkerhoff et al. Case No. 3815-Sub 7, August 12, 1960.*

Water Company Return. The Wisconsin commission considered a return of 5.5 per cent on a water company's net book value rate base reasonable. *Re Corydon Water, Inc. CA-3896, August 12, 1960.*

Gas Rate Cost Allocation. An initial rate proposal for sales by Cumberland & Allegheny Gas Company to an affiliate, Columbia Gas of Maryland, Inc., was not required by the Federal Power Commission to be determined in strict accordance with the principles of cost allocation generally applied, in view of the unique character of the proceeding, which was one further step in the plan of the pipeline system for the realignment of properties whereby each of the system's op-

erating subsidiaries would be subject to regulation by only one regulatory agency. *Re Cumberland & A. Gas Co. Docket No. G-17226, August 15, 1960.*

Gas Price Conditions. Necessarily applicable to temporary authorization under the Natural Gas Act, said the Federal Power Commission, are the same considerations that require price conditions to permanent certificates, in order to protect the consuming public until the lawfulness of initial price proposals for a new supply of gas can be determined. *Re Natural Gas Pipeline Co. of America et al. Docket Nos. G-12399 et al. August 19, 1960.*

Municipal Plant Service Extension. The Wisconsin commission granted a municipal water plant authority to serve in adjacent municipalities provided the plant obtain the written consent of the municipalities involved. *Re City of Milwaukee, 2-U-5379, August 19, 1960.*

Rate Order Stay Denied. The Federal Power Commission held that Tennessee Gas Transmission Company failed to justify a request for a stay of a recent interim rate order, where it was alleged merely that the company would be required to reduce its rates under the order before it could file a petition for rehearing and have the petition passed upon. *Re Tennessee Gas Transmission Co. Docket No. G-19983, August 22, 1960.*

Notice and Suspension Period. The 30-day statutory notice period and the subsequent five-month suspension period set forth in the Natural Gas Act, if appropriate, commence to run only when a filing has actually been made, not on a date when a filing should have been made in order to get a desired effective date,

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the Federal Power Commission pointed out. *Re Bryant, Trustee, Docket No. R160-416, August 22, 1960.*

Pipeline Expansibility Desirable. The construction of new pipeline facilities, affording flexibility and future expansibility, was considered by the Federal Power Commission to be more desirable for a natural gas pipeline system which needed additional capacity than alternative facilities with lower initial cost and higher operating costs. *Re Peoples Gulf Coast Nat. Gas Pipeline Co. et al. Docket Nos. G-19086 et al. August 23, 1960.*

Motor Carrier Freight Rate. The Washington commission granted an interim rate increase to motor freight carrier association members upon a showing that the average operating ratio was 96.2 per cent, that the carriers had experienced increases in labor and Social Security costs, and that it would be necessary, in order for the carriers to benefit from the rate relief, to make the new rate applicable during the peak revenue months. *Re Motor Carrier Freight Rates, Cause No. T-9477, August 23, 1960.*

Station Agency Discontinuance. The Wisconsin commission granted a railroad's application for authority to discontinue agency service at a certain station, and to remove the depot building, upon a showing that public convenience and necessity would not be inconvenienced and that the expenses of keeping the station open exceeded the revenues produced. *Re Chicago, M., St. P. & P. R. Co. et al. 2-R-3835, August 23, 1960.*

Certificate Rate Condition. The Federal Power Commission pointed out that an independent natural gas producer commencing service under temporary author-

ization and at proposed rates filed with the commission is on notice that the permanent certificate may contain a rate condition. *Re Argo Oil Corp. Docket No. G-17411, August 26, 1960.*

Water Meters. The Wisconsin commission ordered a sanitary district which had been granted a certificate to operate as a water utility to meter all customer service connections in order to avoid discrimination, waste, and customer resistances to metering at a later date. *Re Westbrooke Sanitary Dist. No. 1, CA-3898, August 29, 1960.*

Efficiency as Proof of Public Need. In denying an application by a motor carrier for additional authority, the California commission pointed out that proof of efficient operation under a highway permit does not tend to establish that public convenience and necessity require the granting of rights of an entirely different character. *Re Overnite Motor Express, Decision No. 60695, Application No. 41545, September 6, 1960.*

Private Carrier Permit. The Colorado commission granted an application for a private motor carrier permit to transport oil field construction equipment upon a showing that the applicant proposed a special service not ordinarily offered by certificated oil field common carriers and that such service would not impair the efficient public service of existing carriers. *Re Bob Hatfield, Inc. Decision No. 55096, Application No. 17947-PP, September 20, 1960.*

Telephone Company Sold to Co-operative. The Illinois commission approved the sale of Western Illinois Telephone Company's plant and property in and about the city of Augusta to the Adams

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Telephone Co-operative on condition that the co-operative secure the necessary funds from the Rural Electrification Administration to convert the system to a modern dial one. *Re Western Illinois Teleph. Co. No. 46817, September 21, 1960.*

Plant under Construction. The Wisconsin commission permitted a municipal water plant to include plant under construction in its rate base where the effective date of the revised rates approximated the date on which the facilities would be placed in service. *Re City of Milwaukee, 2-U-5282, September 9, 1960.*

Gas Rates Reflect Rising Costs. In granting a substantial rate increase to a gas company, the Alabama commission took into consideration increased gas purchase costs, together with wage and other operating cost increases, and recognized the company's need for earnings sufficient to enable it to attract capital for expansion. *Re Mobile Gas Service Corp. Docket 14908, September 12, 1960.*

No Dedication. The California commission refused to order a water company to serve a complainant where the evidence showed that the company had not dedicated its supply or held itself out to serve the area in which the complainant resided. *Schneider v. Apple Valley Ranchos Water Co. Decision No. 60716, Case No. 6444, September 13, 1960.*

Passenger Fare Increase. The New York commission authorized the Long Island Rail Road Company, which had qualified as a railroad redevelopment corporation, to increase its fares upon a showing that the increase was necessary

to enable it to have sufficient revenues to cover operating costs. *Re Long Island R. Co. Case No. 21387, September 13, 1960.*

Managerial Duty. The Colorado commission pointed out that it is the duty of utility management to achieve the lowest possible reasonable operating costs and operating efficiency since it is not the burden of the public to bear the cost of unusual expenditures and operations, or in method of operations. *Re Taxicab Charges, Decision No. 55090, I&S Docket No. 435, September 16, 1960.*

Transfer Involves No New Rate. Where a natural gas producer had filed a rate increase which was suspended and later put into effect subject to refund, and the producer assigned its properties and operations during the proceedings, the Federal Power Commission ruled that the assignee would be considered as continuing the sale made by the assigner and no question of a new sale would arise. *Re Hunt Oil Co. et al. Docket No. G-18092, September 20, 1960.*

Surplus Interruptible Gas Sale. The Federal Power Commission accepted for filing Midwestern Gas Transmission Company's proposed rate of 28.33 cents per Mcf (one-half of Midwestern's unit demand charge plus its commodity charge) for surplus interruptible gas to be sold to American Louisiana Pipe Line Company on a short-term "as, when, and if available" basis, where such sale would help reduce Midwestern's financial losses resulting from regular customers' failure to take their full contract quantities. *Re Midwestern Gas Transmission Co. Docket No. CP60-35, October 10, 1960.*



Industrial Progress

Philadelphia Electric Wins "Socrates Award" For Best Advertising of the Year

PHILADELPHIA Electric Company of Philadelphia, Pennsylvania, has been awarded the "Socrates High Award of the Year" in recognition of consistently outstanding quality of newspaper advertising, in competition with several hundred other companies in its field, during the past twelve months.

The award has been presented only to Ernest R. Laws, advertising manager, and Robert C. Cox, publicity manager of Philadelphia Electric Company.

The Socrates Award, now in its third year, is presented each October in Public Utility Ad-Views, national publication of Vincent Edwards & Co., Boston. Judging of the advertising is based on originality, layout, copy, art and merchandising. A cumulative total is kept for ads appearing in each issue of Public Utility Ad-Views.

Philadelphia Electric Company was among the leaders in the competition for the entire scoring year. The company was also among the top ten in last year's final standings, according to Ernest L. Farese, Public Utility Ad-Views editor.

The top ten public utility companies in the final standings for 1960 are: Philadelphia Electric Company; Cincinnati Gas & Electric Company; Kansas City Power & Light Company; Illinois Gas Corporation, Buffalo; Wisconsin Electric Power Company, Milwaukee; Consolidated Edison Company of New York, Inc.; Dayton Power & Light Company; Cleveland Electric Illuminating Company; Lone Star Gas Company, Dallas; Southern California Edison Company, Los Angeles.

Laclede Gas Company of St. Louis was the Socrates High Award winner

in 1959; Detroit Edison was the top company in 1958; Oklahoma Natural Gas Company (Tulsa) in 1957; Cincinnati Gas & Electric Company in 1956; and New Orleans Public Service in 1955.

Heidrick Joins Wilsey, Ham & Blair as Utilities Consulting Engineer

HAROLD H. HEIDRICK of Belmont, widely known to public utility people throughout the West, has been named public utilities consulting engineer for Wilsey, Ham & Blair, engineering and planning firm headquartered in Millbrae, California, Lee E. Ham, president, announced recently.

In his new post, Mr. Heidrick will handle utility rate and valuation studies for clients served by the firm from Millbrae and Los Angeles.

From 1947 to 1950, Mr. Heidrick served Pacific Gas and Electric Company as estimator in San Mateo and Eureka, Calif., then joined the California State Public Utilities Commission at San Francisco as utilities engineer.

Versatile Nuclear Monitor Delivered to Hallam Reactor

A VERSATILE nuclear radiation monitoring system, considered the most complete ever developed for a single installation, has been delivered by the Victoreen Instrument Company, Cleveland, to the Atomic Energy Commission's Hallam, Neb., nuclear power plant, according to David H. Cogan, chairman and president of Victoreen.

Designed to monitor radioactivity, the system was built under contract to Atomics International, a division of North American Aviation, Inc., which has designed the reactor for the Atomic Energy Commission facility. The nuclear power plant, rated

at 75,000 kilowatts electrical, will utilize a sodium graphite reactor as the source of heat to power the generators.

Victoreen pioneered radiation monitoring for the government. Its products range from personal dosimeters, to complex types which register radioactivity in air, water or any material. Victoreen systems are to be found in other nuclear reactor plants, in municipal water supply systems and in nuclear submarines as well as the nuclear cargo ship Savannah.

The Nebraska nuclear power plant is scheduled to begin operating in 1962. It will be operated by Consumers Public Power District of Nebraska.

Hart Named Manager of RCA Microwave Department

EDWARD J. HART, a veteran of 20 years' sales and engineering experience in the field of electronics, has been appointed manager of the Radio Corporation of America Microwave Department, it was announced recently by J. J. Graham, division vice president and general manager, RCA Communications and Controls Division.

"The use of microwave communications by business, industry and government is growing at an accelerated pace," Mr. Graham said. "RCA is playing an increasing vital role in this aspect of the electronics industry."

More than one million channel miles of RCA microwave systems are in operation throughout the continental United States, including two-way communications links for common carriers, virtually all the nation's turnpike network, utility and pipeline companies, and government agencies. RCA currently is installing electronics equipment for a new transcontinental Western Union system.

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INDUSTRIAL PROGRESS—(Continued)

Arizona Public Service Plans Record-breaking Program

ARIZONA Public Service Company will invest near \$34,000,000 during the first six months of 1961 building new gas and electric facilities to provide for the future growth of the state.

John M. Jacobs, chairman of the company's board of directors, in announcing the board's approval of these expenditures, pointed out that the company will invest more money next year than in any previous 12-month period in the utility's history.

Mr. Jacobs said that construction by the company which operates in 10 of the state's 14 counties, would continue at a steady pace through 1965. "The potential is here, and we feel assured that Arizona's growth will continue. Public Service plans not only to keep up with that growth, but to set the pace for it."

Nearly half of the budgeted expenditures will be for construction of new generating facilities. Close to \$5,000,000 will be spent for the company's Choate power plant now under construction near Joseph City. Slightly over \$10 million is earmarked for the company's new Four Corners power plant in the northwestern corner of New Mexico. Construction is expected to begin on Four Corners plant as soon as final agreements are signed between Public Service, Navajo Tribal Council and Utah Construction and Mining Company.

"Both these new plants," said Mr. Jacobs, "will use coal as a fuel to generate power. The changeover from coal as a boiler fuel in our future plants is part of our continuing efforts in research activities to find the most economical means of generating power—and thereby help hold the line against increasing costs."

Wisconsin Public Service Adds to Capacity Of Weston Plant

THE electric generating capacity of the Weston steam electric plant of Wisconsin Public Service Corporation was increased to 135,000 kilowatts recently with the completion of a 75,000 kilowatt generating unit addition. The Weston plant is located on the east shore of the Wisconsin river near Rothschild in Marathon County.

Harold P. Taylor, president, told the group attending the "start-up" ceremony that the output of the new generator could provide the electrical needs of a city of 150,000 population. "This addition to Weston plant cost \$12,400,000," he said, "and the total investment in this plant is now \$23,400,000."

Pointing out that the total generating capacity of Public Service is now 490,000 kilowatts, he explained that this is a 41 per cent increase compared with five years ago, and a 121 per cent increase compared with 10 years ago. "Ten years from now, we expect to have doubled the generating capacity we have now, or about 1,000,000 kilowatts," he predicted.

Midwest to Supply Piping for Cleveland Power Plant

MIDWEST Piping Company, St. Louis, has contracted to fabricate and erect the piping system for a new 250,000 kw unit of Cleveland Electric Illuminating Company's Lake Shore station on Lake Erie.

The piping firm has already begun engineering work on the \$2,000,000 project, which will include high pressure piping, low pressure piping, and instrumentation.

Operating conditions will be 20 psi @ 1000°F.

Midwest will supply all fittings, piping materials and fabricated assemblies, which will then be erected. Midwest's field construction department, beginning early next year. Final work is scheduled for completion in early 1962.

New Facilities Brochure Available From Monitor Systems, Inc.

NEW 12-page, 2-color brochure describes the facilities of Monitor Systems, Inc. for engineering and production of advanced ultra-reliable systems for high speed process monitoring, production testing, and automatic checkout.

The brochure discusses significant accomplishments, corporate facilities, personnel, and typical data systems for defense and industry. For a copy, write Monitor Systems, Inc., a subsidiary of Epsco, Inc., Rt. 8, Fort Washington Industrial Park, Fort Washington, Pennsylvania.

G-E Appointments

CHARLES W. ELSTON has been named general manager of General Electric's Lark Steam Turbine-Generator Department at Schenectady.

Mr. Elston, who has been general manager of the Gas Turbine Department, succeeds W. E. Saupe, who will retire at the end of the year.

In announcing Mr. Elston's appointment, William S. Ginn, vice president and general manager of the Turbine Division, said that Mr. Saupe would continue to serve the department in a consulting and advisory capacity until his retirement. Alan Howard, who has been manager-engineering for G.E.'s Medium Steam Turbine, Generator and Gear Department at Lynn, Mass., will succeed Mr. Elston as general manager of the Gas Turbine Department.

Mr. Saupe, internationally known throughout the electrical industry, was responsible during the 10 years as general manager of the department for the production of more than 100,000 kw of large steam turbine-generator capacity than was produced at Schenectady during the previous 10 years. Also during his general management, the department built one of the largest, most powerful electric powermakers ever made.

Prior to the new appointment Mr. Elston was general manager of the

Gas Turbine Department, which General Electric started in Schenectady shortly after World War II. Elston and Saupe will work closely for the rest of the year on plans for the future.

One development which will get a lot of emphasis is the combined cycle steam turbine-gas turbine, announced by Mr. Ginn earlier this year. Combined cycle units, when perfected, are expected to save coal burning-electric utilities up to 4 percent a year in fuel bills—a major savings in the power generating industry—and would greatly widen General Electric's technological leadership in the industry.

According to Mr. Ginn, the combined cycle represents potentially the greatest technological breakthrough made in the industry for 25 years.

McCabe-Powers Adds New Service Body for Electric Service Work

MCCABE-POWERS Body Company, St. Louis, Mo., has announced the production of a modernized Series 44-E Powers-American service and maintenance body for electric service work.

According to Brooke Daly, company vice president, crewmen, foremen and other supervisory personnel were asked what features they would like to have in a service body. He said, "Their recommendations led to the development of the new Series 44-E Body. Electric companies have found this body to be one of the most efficient ever produced because of its adaptability to a wide variety of service operations. Carefully-planned compartment space allows for the orderly storage of all tools and supplies normally needed in utility service and maintenance work."

Descriptive literature and price information can be obtained from McCabe-Powers Body Company, 5900 North Broadway, St. Louis 15, Missouri.

I-T-E's Mobile Exhibit of Newly-Designed 4160-Volt Switchgear On National Tour

IN a campaign to save valuable man hours for customers and show its newly-designed 4160-volt switchgear, I-T-E Circuit Breaker Company is sending its demonstration trailer on a nationwide, year-long "door-to-door" tour.

The 44-foot mobile unit will give

practical, on-the-spot demonstrations of the recently-introduced equipment to hundreds of customers and prospects in every state, except Alaska and Hawaii.

The trailer is going directly to electric utilities, industrial plants, and contractors' and consulting engineers' offices where groups of from five to 15 persons are expected to attend two-hour sessions at each location. Given by field office representatives, the meetings will consist of the showing of an 18-minute sound film, a complete demonstration of the equipment and a question-and-answer period.

Arranged in meeting-room style, the interior of the trailer is outfitted with 18 chairs; a film projector; screen; back-lighted color transparencies of the equipment's components, and an actual circuit breaker and switchboard. The trailer is air-conditioned, carries its own generator to power the electrical devices, and has coffee and cold-drink dispensers.

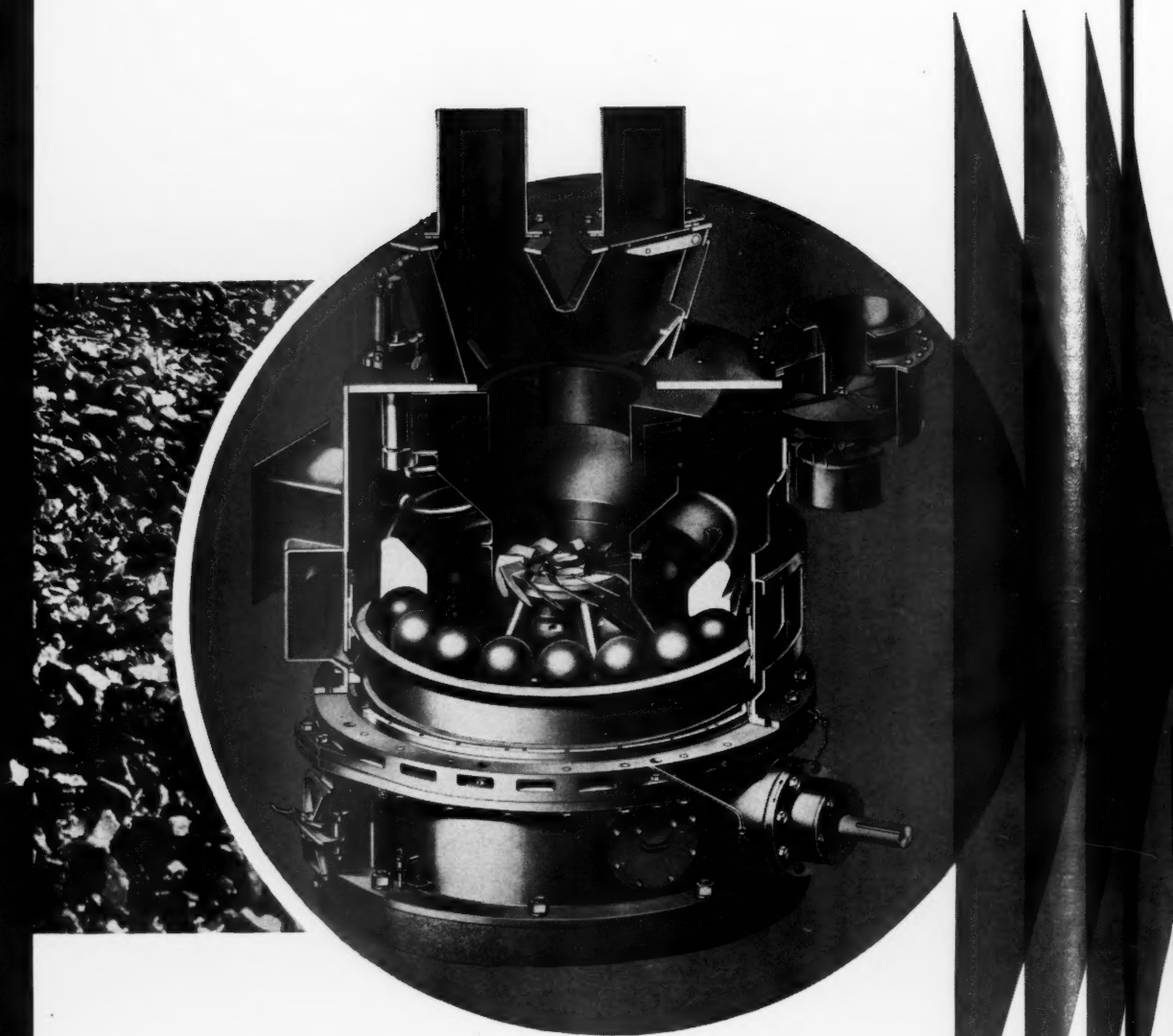
The redesign of the metal-clad equipment, first such clean-sweep design in the history of the electrical industry, incorporates such exclusive features as compact design; closed-door, horizontal drawout; stored-energy closing; a new concept of arc extinction known as the ironless blow-out coil; maximum safety and one-man maintenance.

Production Starts at New M. W. Kellogg Power Piping Manufacturing Plant

THE Power Piping Division of The M. W. Kellogg Company, a subsidiary of Pullman Incorporated, announced recently that its new power piping manufacturing plant is now in production in Williamsport, Pa. Representing an investment of approximately \$4 million, the new facilities include completely-equipped metallurgical and welding laboratories, and a modern, one story office building which is the new headquarters of the Power Piping Division.

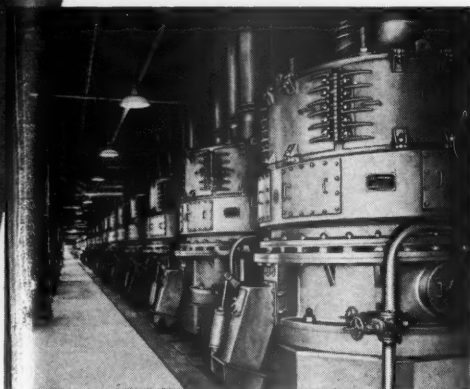
John M. McAneny, General Manager of Kellogg's Power Piping Division, said, "Our new 140,000 sq. ft. plant has been designed specifically for efficient manufacture of power piping systems. It provides our clients in the electric, nuclear power and process industries with the best piping systems available for their high-temperature, high-pressure requirements."

(Continued on Page 24)



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Delivers Uniform High Fineness, consistently, over its entire service life. Only material of the proper fineness can leave the B&W Pulverizer, because its high circulating load promotes efficient and dependable product classification. Proper grinding contact is maintained by spring-loaded ball bearing grinding elements, operating at a slow speed. Special-alloy grinding components will last two years or more on eastern coals and at least one year on midwestern coals.

No Trouble with Low Grade or Wet Coal, because the B&W Pulverizer *recirculates* the fuel through heated air, and re-grinds oversize particles. This unique feature — exclusive with B&W — assures maximum utilization of even lowest-grade coals, whether too dry or soaking wet. It eliminates capacity losses, shutdowns or special attention.

Takes All Types of Automatic Controls. The B&W Pulverizer features "one point contact with the boiler" . . . an uncomplicated arrangement by which the boiler's automatic combustion control regulates the pulverizer by adjusting only the damper in the primary-air duct. The pulverizer's own control system regulates all other functions, including fuel-air ratio and operating temperature.

To Get Full Information about the advantages of the B&W Pulverizer and Pulverized-Fuel Firing Systems, write today to The Babcock & Wilcox Company, Boiler Division, Barberton, Ohio.



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BOILER DIVISION

Vermeer Introduces New Pow-R-Stump Cutter

A NEW Model P-15 Pow-R-Stump Cutter, driven by a standard tractor's power-take-off drive shaft, is the latest addition to the Stump Cutter line manufactured by the Vermeer Manufacturing Co. of Pella, Iowa.

According to the announcement, the Vermeer Pow-R-Stump Cutter, is a powerful, one-man operated ma-

chine that cuts stumps to shreds in minutes, is safe and simple to operate. One man controls the entire cutting operation with three conveniently located levers. Three separate hydraulic cylinders control the (1) side-to-side motion of the cutting wheel, (2) the height of the frame and (3) the horizontal motion of the frame.

The Stump Cutter can handle any size stump up to 33 inches in height, and has a travel range of six feet

from side to side and 33" forward and backward. It digs out the stump down to 15 inches below the surface of the ground and the remaining can be refilled with the dirt and chips and tree roots will rapidly underground.

Transwestern Pipeline Company Plans to Construct and Operate \$2,452,200 Facilities

THE Federal Power Commission has granted Transwestern Pipeline Company, of Houston, Texas, temporary authority to construct and operate natural gas facilities costing about \$2,452,200.

Transwestern will construct miles of 8-inch pipeline, a 35-horsepower compressor station, a measuring station. The company will also add 1,000 compressor horsepower to an existing station.

Transwestern will use the facilities to take natural gas purchased from United Carbon Company, Inc., at tailgate of United's Shamrock production plant in Wheeler County, Texas. In its application, Transwestern states the proposed gathering facilities would make available gas reserves in excess of 40 billion cubic feet.

Panhandle Eastern Pipe Line Plans \$2,500,000 Construction

A BUDGET-TYPE construction application by Panhandle Eastern Pipe Line Company, Kansas City, Missouri, has been accepted for filing by the Federal Power Commission.

Panhandle proposes to build facilities during a one-year period commencing with the date of issuance of a certificate in this matter, with total limitation of \$2,500,000 and single project limitation of \$500,000.

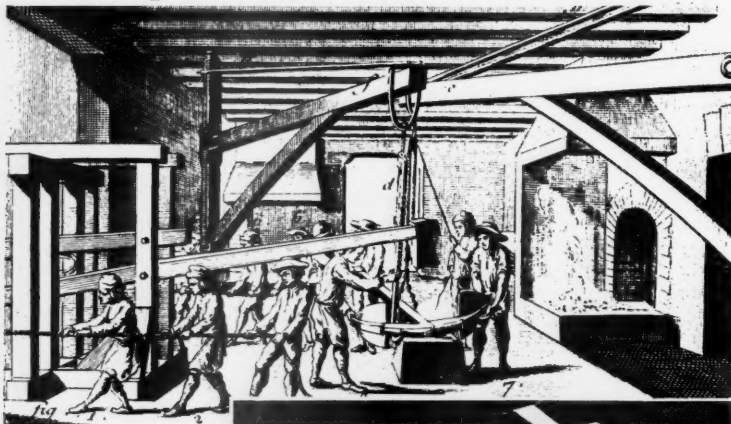
The proposed facilities would enable Panhandle to eliminate delay in contracting for and taking into pipeline system natural gas which may be purchased from independent producers in the general area of existing transmission system.

Cincinnati Gas & Electric Buys 10 New White Construction Trucks

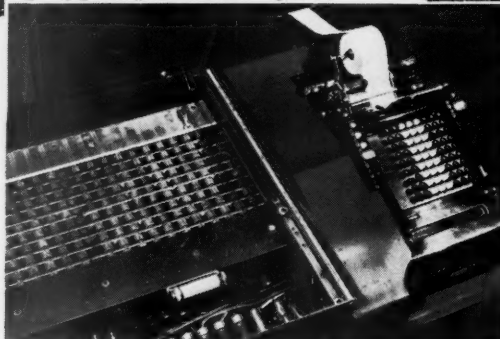
CINCINNATI Gas & Electric Company will put 10 new White 30-ton construction trucks into service in its gas construction department shortly.

The cab-forward trucks built

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The trip hammer production speed and accuracy of "One-Step" monthly rate bill analyses offer a two-fold advantage to rate engineers: 1. always up-to-date figures on present consumption can be safely geared to future operational planning; 2. the widely recognized validity of our analyses are a definite plus in preparing and presenting rate cases.

Change-over to the "One-Step" Method is easy, and your personnel is not involved in compilation—all the work is done in our office. The full story is in our booklet, "One-Step" Method of Bill Analyses.

A note to Dept. U-4 will bring your copy

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Truck Division of The White Motor Company have 130-h.p. gas engine, 5-speed transmission, 14-inch wheelbase, 138C single reduction, full floating rear axle, 127½-inch wheelbase, and 12-volt 50-amp low cut-in generator. They are equipped with plan bodies. Cabs are equipped with power tilt for access to engine and power drive components and truck frame is single channel heat-treated steel.

Edwin Sackett Joins Boni, Watkins, Jason & Co., Inc., As Vice President

EDWIN SACKETT has been named vice president of Boni, Watkins, Jason & Co., Inc., Economic and Management Consultants, according to an announcement by the board of directors of the firm.

Prior to joining Boni, Watkins, Jason & Co., Inc., Mr. Sackett served for four years as consultant to the Assistant Secretary of the Army, specializing in the development and production of guided missiles.

Mr. Sackett's thirty years of experience in consulting, industrial operations and government service has included intensive work in the areas of corporate planning, product development and production, and acquisitions and divestments.

Baltimore Gas & Electric Plans for Expected Increase in Electric And Gas Sales

BALTIMORE Gas and Electric Company expects its kilowatt hours of electricity sales to increase 6 per cent to 7 per cent during the next five years, and its cubic feet of gas sales to grow 7 per cent to 10 per cent in that period, according to J. Theodore Wolfe, president.

Mr. Wolfe estimated the company will require \$250 million in new buildings and equipment, an expansion of nearly 50 per cent to meet increased demand in the next five years.

1960 Edition of FPC's Electric Regional Maps Now for Sale

THE Federal Power Commission announced recently that the 1960 revision of its "Principal Electric Facilities" map series is now for sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. The maps reflect data as of June 30, 1959.

The set consists of 8 regional maps, including one of Alaska, Hawaii and Puerto Rico. Price of the maps is 35 cents each.

A plant and ownership list appears on each of the regional maps, giving the plant name, type, capacity, location by state, and operating utility class of ownership. Each generating station appearing on the map has been assigned a key number and each operating utility has a letter code for identification purposes. The list identifies each utility by class of ownership as a privately-owned, publicly-owned, or mutually-owned utility, or as an industrial establishment furnishing incidental electric service.

The maps show high-voltage lines of 22 kilovolts and above, electric utility generating stations of 1,000 kilowatts and above, and industrial electric generating stations of 1,000 kilowatts and above when interconnected with an electric utility. Congested areas are shown as enlarged inserts on the maps.

Northern Illinois Gas Expects to Spend \$200 Million in Next 4 Years

NORTHERN Illinois Gas Company estimates that its construction program in the next four years will cost some \$200,000,000, according to C. J. Gauthier, vice president-finance.

Most of the construction program's cost will be spent for gas distribution facilities. The estimate includes \$38,000,000 for development of large volume underground storage facilities and transportation to the company's market, he said. Northern Illinois Gas services a 10,000-square-mile area around but not including Chicago. Its service area had an estimated population of 2,530,000 in 1959.

West Penn Power Plans \$43,000,000 Addition to Mitchell Station

PLANS to construct a huge, new generating addition to West Penn Power Company's Mitchell station at Courtney, near the city of Monongahela, were announced recently by President Streuby L. Drumm.

Work on the new unit, which will cost about \$43 million to build, will start next year. It is expected to be completed and in operation late in 1963.

The turbogenerator which will be capable of producing about 250,000 kilowatts of electricity will be West Penn Power's largest generating unit.

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New equipment now in operation includes the latest machinery, worth in excess of \$1 million, for machining, bending, and welding ferritic, austenitic, stainless, and other materials into piping of any wall thickness.

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sure a smooth and uninterrupted flow of operations from one end of the 900-ft. plant to the other.

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Completely equipped metallurgical and welding laboratories, continually working to improve materials and techniques, aid in solving new manufacturing problems and are also available to clients as a service laboratory.

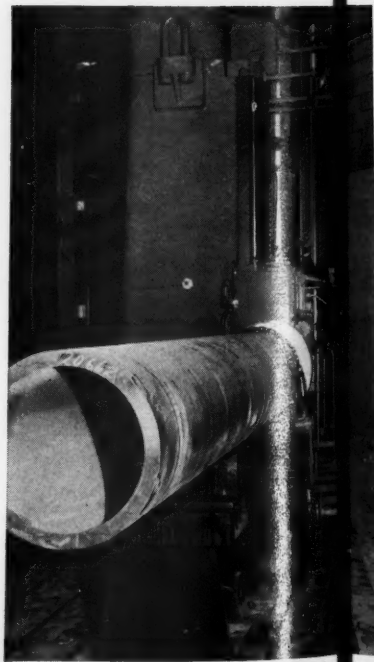
Kellogg's Power Piping Division welcomes inquiries on its new facilities, and extends a cordial invitation to engineers to inspect them personally.

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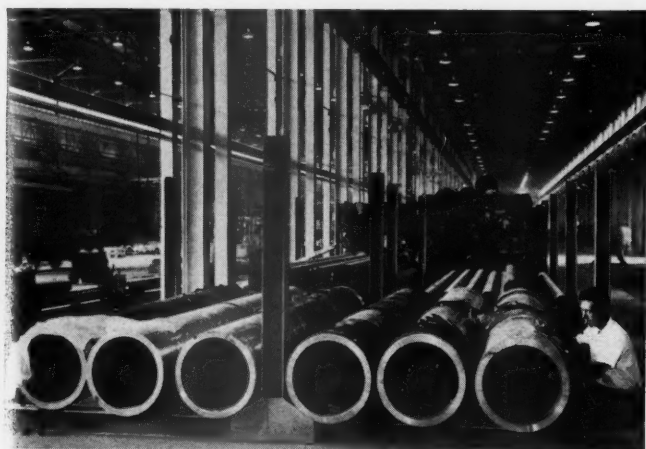
Offices of other Kellogg companies are in Toronto, London, Paris, Rio de Janeiro, Caracas, Buenos Aires



Plant Now In Production at Williamsport



New manufacturing plant and headquarters of Kellogg's Power Piping Division—situated on a 50-acre site at Williamsport, Pa.



Above: Raw materials bay, 40-ft. wide, extends the entire 900-ft. length of the plant. Piping and fittings are conveniently drawn from storage by overhead cranes and placed in the production line at any point in a planned manufacturing sequence.

Left: One of the new boring mills at Williamsport. Piping in machine is a stainless steel section—to be installed by Kellogg field erection specialists in the reactor sphere of a nuclear power station.



Above: Welding is a major phase of Kellogg's operations. Here, two thin-walled sections of stainless steel power piping are being joined by K-Weld—an inert gas-shielded technique of arc welding, patented by Kellogg, which assures long life.



Left: Front entrance of Kellogg's new Headquarters Building. This ultramodern office building houses administrative, engineering, estimating, and accounting departments of the Power Piping Division. Sales offices remain at 711 Third Avenue, New York, N.Y.

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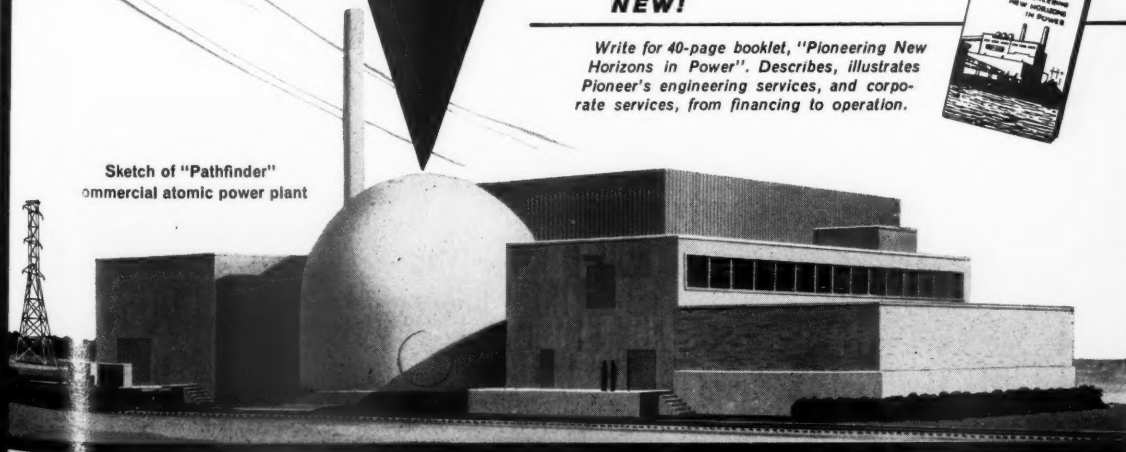
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